

~~4090-273~~

Vol. 27  
1910

**THIS MAY NOT BE  
PHOTOCOPIED**

USE MICROFICHE FOR COPIES



№ 4090.273

V.27  
1910























# ' THE ' ARCHITECTURAL RECORD



## · CONTENTS ·

### THE WORK *of* MESSRS. CARRÈRE & HASTINGS ILLUSTRATED

#### NOTES AND COMMENTS (Illustrated)

121

Public Appreciation—Commercial Architecture and Utilitarian Clients—What City Builds—Mural Paintings in the West—Boston's New Museum of Fine Arts—Pittsburgh Has an Ideal—St. John's Chapel, New York—The Boston Exposition—Plea for Harmonious Building—Les Architectes des Cathedrales Gothiques—Southern Pennsylvania Chapter American Institute of Architects.

PUBLISHED BY

THE ARCHITECTURAL RECORD COMPANY

President, CLINTON W. SWEET  
Vice-Pres. & } H. W. DESMOND  
Genl. Mgr., }

Treasurer, F. W. DODGE  
Secretary, F. T. MILLER

11-15 East Twenty-fourth Street, Manhattan

Telephone, 4430 Madison Square

Subscription (Yearly) \$3.00

Published Monthly

Copyright, 1909, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N.Y., Act of Congress of March 3d, 1879





TRADERS' BANK (1905).

Toronto, Canada.



THE  
ARCHITECTURAL RECORD

A MONTHLY MAGAZINE OF ARCHITECTURE  
AND THE ALLIED ARTS AND CRAFTS

---

INDEX-VOLUME XXVII

---

JANUARY-JUNE

1910

---

PUBLISHED BY

THE ARCHITECTURAL RECORD CO.

11-15 EAST 24TH ST., NEW YORK

841 MONADNOCK BUILDING, CHICAGO

WESTINGHOUSE BUILDING, PITTSBURG

603 CHESTNUT ST., PHILADELPHIA

114 FEDERAL ST., BOSTON

KL/090-273

27

7354







# CONTENTS

## OF

# THE ARCHITECTURAL RECORD

## VOLUME XXVII

JANUARY—JUNE, 1910.

	PAGE
APARTMENT HOUSE, THE. H. W. Frohne .....	205
ARCHITECTURAL ABERRATIONS, LESSONS FROM. John Beverly Robinson.....	180
ARCHITECTURAL ORNAMENT, EVOLUTION OF. I. G. A. T. Middleton, A. R. I. B. A....	258
ARCHITECTURAL ORNAMENT, EVOLUTION OF. II. G. A. T. Middleton, A. R. I. B. A....	321
ARCHITECTURAL ORNAMENT, EVOLUTION OF. III. G. A. T. Middleton, A. R. I. B. A..	415
ARCHITECTURAL ORNAMENT, EVOLUTION OF. IV. G. A. T. Middleton, A. R. I. B. A..	483
ARCHITECT'S, THE PROPER SPHERE. W. R. Ware.....	173
ASTOR, THE RESIDENCE OF COL. JOHN JACOB, NEW YORK CITY.....	471
BLANK WALLS, ARCHITECTURAL TREATMENT OF.....	227
BRIDGES, TWO GERMAN. Montgomery Schuyler.....	235
CARRÈRE & HASTINGS, THE WORK OF.....	I
CHURCH, BUILDING FOR A SMALL CONGREGATION. Herbert Wheaton Congdon.....	161
CLUB HOUSE OF ROYAL AUTOMOBILE CLUB, THE NEW. Francis S. Swales.....	175
COLLEGES, THE ARCHITECTURE OF AMERICAN. III, PRINCETON. Montgomery Schuyler	129
COLLEGES, THE ARCHITECTURE OF AMERICAN. IV, NEW YORK CITY. Montgomery Schuyler.....	443
CURRENT EUROPEAN ARCHITECTURE.....	241
FACTORIES AND THEIR FIRE PROTECTION. Franklin H. Wentworth.....	218
FIFTH AVENUE MANSION, A .....	383
GERMAN ARCHITECT, A CONTEMPORARY: RUDOLPH ZAHN. A. C. David. ....	299
GLASS: ITS ADAPTABILITY IN BUILDING. Edgar H. Bostock.....	350
HARRIMAN, RESIDENCE OF J. BORDEN, MT. KISCO, N. Y.....	513
LEBRUN, THE WORK OF N. AND SONS.....	365
NOTES AND COMMENTS.....	121
Public Appreciation—Commercial Architecture and Utilitarian Clients—What City Builds—Mural Painting in the West—Boston's New Museum of Fine Arts—Pitts- burgh has an Ideal—St. John's Chapel, New York—The Boston Exposition—Plea for Harmonious Building—Les Architectes des Cathedrales Gothiques—Southern Pennsylvania Chapter American Institute of Architects.	
NOTES AND COMMENTS.....	199
Is the Architect a Polytechnician?—A Subject for Investigation—A History of Architecture—More Civic Work for Architects—City Planning in Hartford—Chest- nut Street's Christmas Eve—A Protest that is Timely—Art Possessions of City of New York—Harmony in Building—Triggs on Street Architecture.	



	PAGE
NOTES AND COMMENTS.....	271
The Architectural League Exhibition in New York—International Housing Congress—Architectural Ethics—New Solution of the School Problem—Comprehensive Plans for Toronto—Small Art Galleries—Philadelphia to be Planned—Of Harmony Again—Denver Approves Civic Center—Official Plan Commission—Boston Custom House—Metropolitan Improvements for Boston—Exposition in Buenos Aires—Architectural Tribulations.	
NOTES AND COMMENTS.....	359
The New Court House, New York—An Appreciated Architectural Exhibition—Public Use of Historic Mansions, National Conference on City Planning—Bill for a State Art Commission—A Look Back—Injustice of Off-hand Criticism—News Items from Rome—The Work on Winchester—Exhibition of Domestic Architecture in Philadelphia—Seattle Architectural Club Exhibition—The New South.	
NOTES AND COMMENTS.....	433
A. I. A. Circular of Advice Relative to Competitions—The Crown of the Skyscrapers—Bill for Harmonious Streets—Bill for National Fine Arts Commission—Dinner to Brooklyn Architects—The New Palace, Tokio—A Letter to Touch—New York in Provincial Eyes—Architects Propose Medals for Clients—Masonic Homes Competitions—Architectural Tribulations.	
NOTES AND COMMENTS.....	519
The Pennsylvania's New York Station—Planning Park Bridges—Aviation and City Planning—Prestige—Architect's Dream for Atlanta—Replanning a Famous Square—A Year's Public Monuments.	
RECENT EUROPEAN ARCHITECTURE.....	311
SCHOOL BUILDINGS, PUBLIC AT CHICAGO. Peter B. Wight .....	495
THOUGHT AND EXPRESSION IN ARCHITECTURE. W. L. Mowll.....	294
TRANSMUTATION OF A RESIDENCE STREET: MICHIGAN BOULEVARD, CHICAGO. Peter B. Wight.....	285
UTILITARIAN ARCHITECTURE AT CHICAGO, I. Peter B. Wight.....	189
UTILITARIAN ARCHITECTURE AT CHICAGO, II. Peter B. Wight.....	249
WAREHOUSES. Chas. A. Patton.....	334
WILD MEN OF PARIS, THE. Gelett Burgess.....	401



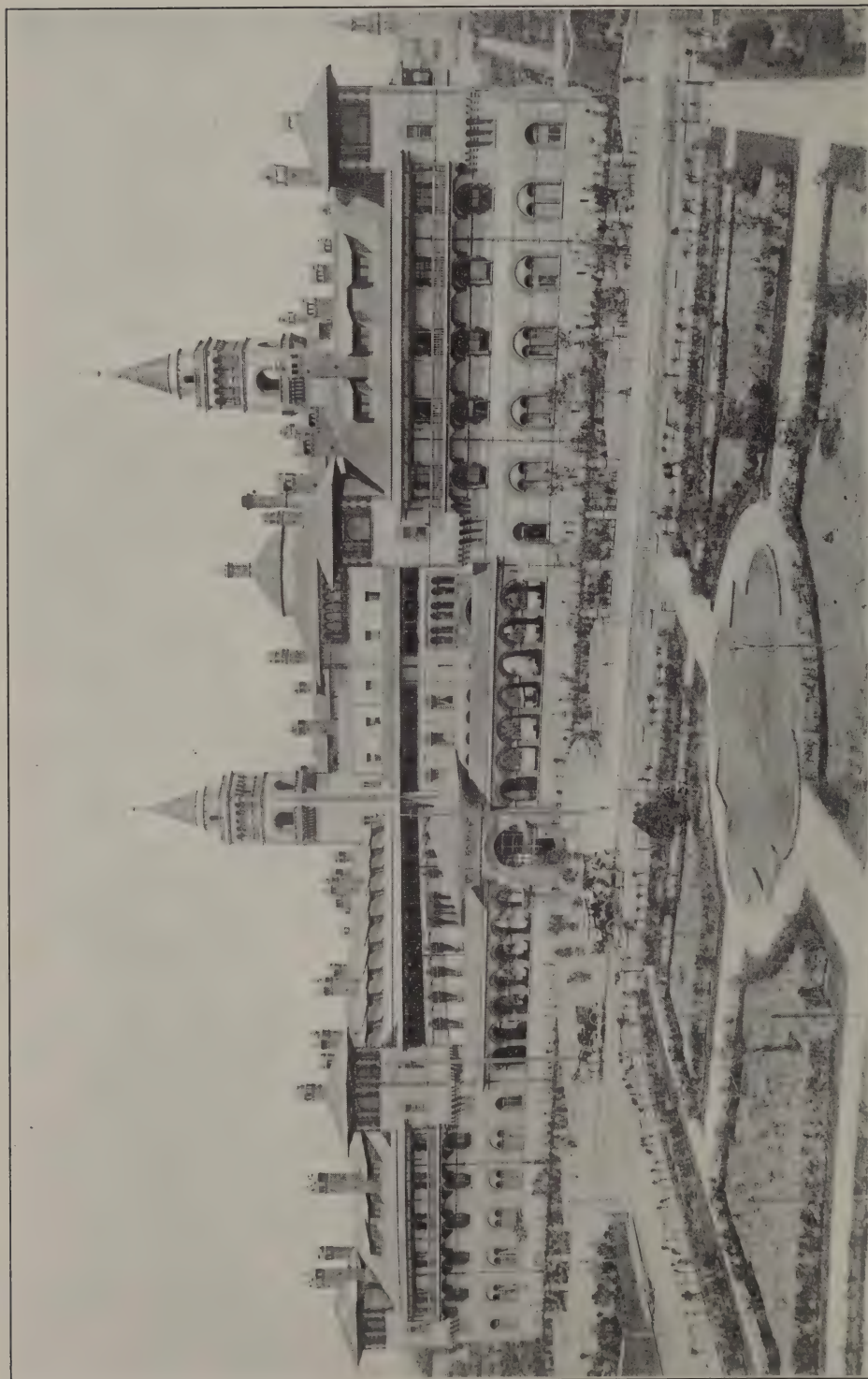
## The Work of Messrs. Carrère & Hastings

During the last thirty years the architectural revival in the Eastern American states has been dominated by the influence and the work of two firms—McKim, Mead & White, and Carrère & Hastings. There have, of course, been practicing a score or more of other architects, who have made valuable individual contributions to American architectural design, and who in many instances entirely escaped the influence of the two above-named firms. Nevertheless there is no doubt that Messrs. McKim, Mead & White, and Carrère & Hastings occupy a position in recent American architectural history, essentially different from that of any of their associates. They constitute a class by themselves in respect to the volume and variety of their work. They constitute a class by themselves in the fact that their work has been peculiarly representative. They constitute a class by themselves, in that their work has been particularly formative in its influence. They both anticipated the lines, which in general the development of American architecture would travel, and by the force of their example they have helped American architecture to understand its proper method and its immediate goal, and to advance more quickly towards its attainment.

While, however, Messrs. McKim, Mead & White and Carrère & Hastings constitute a class by themselves in their relations to their contemporaries, the two firms are distinguished one from

another by certain essential differences, both of purpose and of achievement. They are similar in the volume and variety of their work and the extent of their influence. They are similar in that both of them, after a preliminary period of hesitation, attached themselves definitely and finally to that vague, but significant stream of architectural tendency, which we know by the name of the Renaissance. But it should be immediately added that Carrère & Hastings attached themselves to a phase of the architecture of the Renaissance wholly different from that of McKim, Mead & White. The Renaissance passed through many different forms during the several centuries of its architectural development, and McKim, Mead & White did not identify their work specifically with any one of these phases. They were predominantly early Italian in their sympathies, but this bias did not prevent them from designing, when it suited their purposes, Roman, Palladian, Louis Seize or Georgian buildings. Carrère & Hastings, on the other hand, have been for the most part faithful in their allegiance to a certain phase of the French Renaissance; and this fact is symptomatic of a salient difference both of idea and of temper between the two firms. They consciously selected this phase of Renaissance architecture as the point of departure of their work, and they made this choice from certain definite and intelligible reasons. Moreover, in thus pur-





PONCE DE LEON HOTEL (1887).

St. Augustine, Fla.

posely restricting the stylistic variety of their work, Carrère & Hastings have unquestionably taken a step in advance over the more eclectic practices of McKim, Mead & White. What American architecture needed was a constantly increasing definition of its authoritative forms, because only by such definition could the necessary and desirable mastery of any particular form be obtained. Whatever one may think, consequently, of the compara-

White, and the significance of the improvement made thereupon by Carrère & Hastings.

Critics, particularly foreign critics, of American architecture have usually been unable to discover any guiding idea back of its transformations, except that of a meaningless and indiscriminate imitation of European architectural forms; and they have usually assumed that any such characterization carried with it a substantially complete



PONCE DE LEON HOTEL—INTERIOR COURT.

St. Augustine, Fla.

tive merit of the work of these two firms, the general architectural policy of Carrère & Hastings must be pronounced to be in general an improvement on that of McKim, Mead & White. The former were the younger firm, who not only followed the example of their predecessor, but in certain respects bettered it; and the peculiar importance of Carrère & Hastings cannot be understood unless a careful explanation is attempted, both of the significance of the example set by McKim, Mead &

condemnation of all its works and practices. Any criticism which originates in such a general point of view makes the kind of mistake which tends to invalidate all of its subsequent judgments. American architecture has been imitative, of course; but it has been imitative of necessity and for excellent reasons. At times, also, this imitation has been indiscriminate and meaningless; but on the whole its use of European architectural forms has been gradually becoming more discriminate and more



For American architecture to have started in anything but the imitation of foreign or European architectural forms would have been a violation both of precedent and of good judgment. In periods when communication was difficult and precarious, and when



a people could assert its right to national development only by successfully defending itself against its neighbors or conquering them, imitation necessarily played a much smaller (although still by no means negligible) part in architectural development than it has during the past five centuries; but just in pro-



PONCE DE LEON HOTEL—ROTUNDA.



portion as intercourse among different peoples is safe, easy and quick, the peculiarly intelligent people is the one that knows what and when and how to borrow. The American colonists being the offshoot of Europe peoples, were obliged to borrow their whole stock-in-trade of ideas, laws and manners and technical forms and practices. In response to the imperative requirements of life in a new and undeveloped coun-

try, they soon began to modify the equipment in civilization, which had been brought across the Atlantic; but in the beginning they naturally modified that part of their equipment, which was the greatest immediate practical importance, viz.: their political and economic ideas, their manners and their laws. In respect to technical forms they remained colonists long after they had become politically and economically independent. Down to

the present day they have not escaped a certain necessary colonialism in their technical ideals and practices, and for special reasons their architectural methods have remained even less independent than has been the case with the other arts.

One of the strongest influences working on behalf of the nationalization of any art is the endeavor of its practitioners to express a peculiarly



PONCE DE LEON HOTEL—DINING ROOM.

try, they soon began to modify the equipment in civilization, which had been brought across the Atlantic; but in the beginning they naturally modified that part of their equipment, which was the greatest immediate practical importance, viz.: their political and economic ideas, their manners and their laws. In respect to technical forms they remained colonists long after they had become politically and economically independent. Down to

local subject-matter; and it is this endeavor which has been responsible for whatever national character Americans have been able to impart to their sculpture, painting and literature. But architecture in a sense has no subject-matter. Like music it is an art in which no valid distinction can be made between subject-matter and form. The architecture of any country and that of the United States in particular has peculiar conditions to meet, local mate-



METHODIST CHURCH (1887).

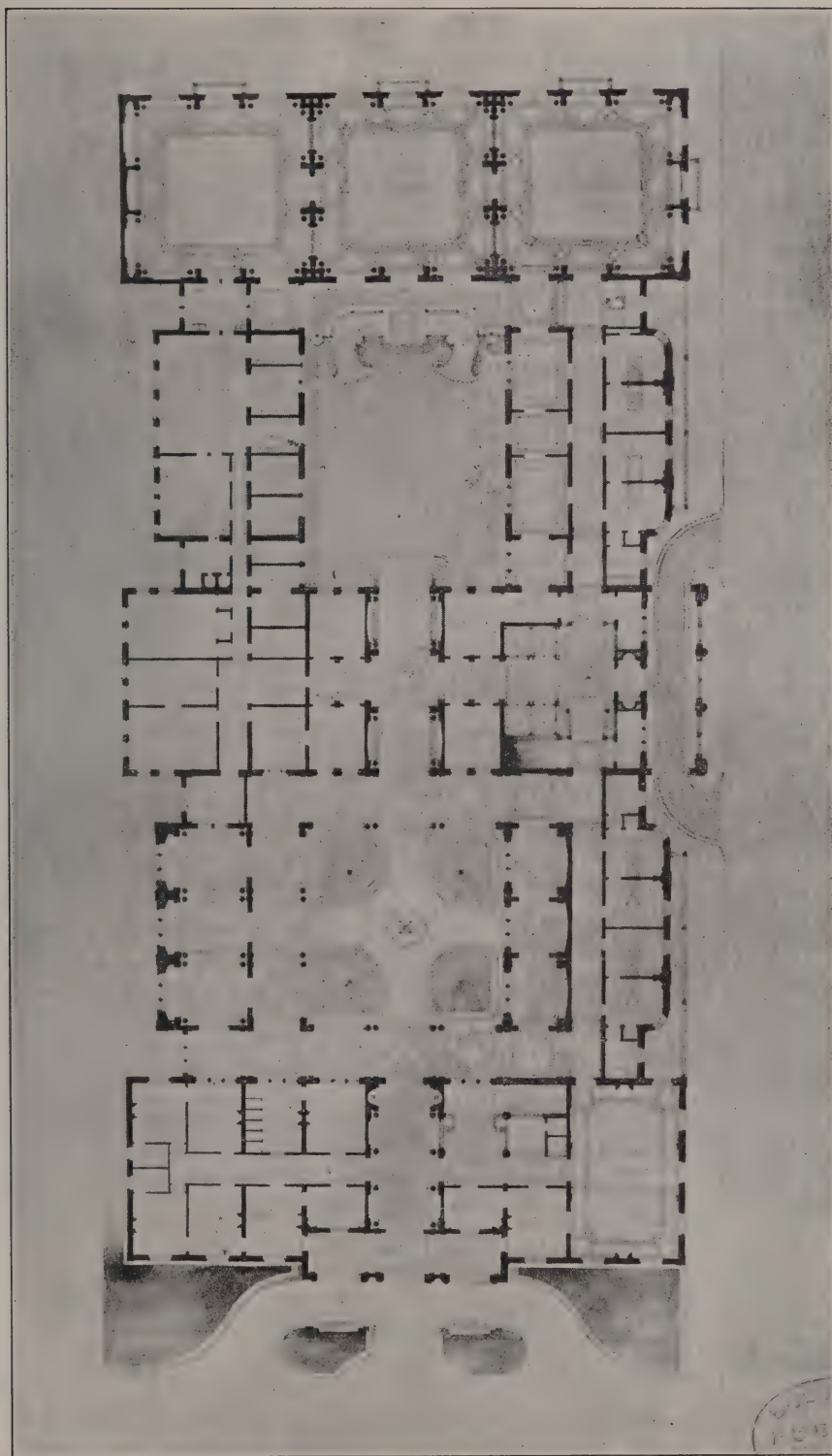
St. Augustine, Fla.





THE ALCAZAR HOTEL (1888).

St. Augustine, Fla.



ALCAZAR HOTEL—GROUND FLOOR PLAN.

St. Augustine, Fla.





rials to master and novel problems to solve; and in this sense it can be said that American architecture has a special and local subject-matter. But these local conditions, materials and problems have no intrinsic and inde-

any independent means of winning public attention. While the novelist who writes in the English language can gain a hearing by writing about familiar American subjects, the architect can gain a hearing only by means of his



WEST END CHAPEL (1889).

West 105th St., New York City.

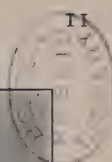
pendent interest for the public, apart from the forms in which they are embodied. They provide the architect with his difficulties and his opportunities; but they do not provide him with

peculiar use of his appropriate language. He is as much tied to certain conventional forms of expression as the man of letters is to the English vocabulary and grammar. If he used any



PRESBYTERIAN CHURCH (1890).

St. Augustine, Fla.





other forms he would not be understood, and he would in addition run a grave risk of not understanding himself, and he cannot make those familiar forms look fresh merely by the help of peculiarly fresh material. His work is not essentially any more imitative than that of a painter or a novelist. All American technical methods and forms

in the selection of those forms best suited to the local purposes, and then in the peculiarly consistent, idiomatic, realistic, and beautiful rendering of the adopted style. The distinction of modern French architecture is due to the fact that for some centuries French architects have on the whole been more consistent, more capable and more in-



CENTRAL CONGREGATIONAL CHURCH (1891).

Providence, R. I.

are borrowed; but the architect has no way of concealing his borrowing.

American architects have no reason to be apologetic about the alien source of their technical methods and forms. There was nothing else for them to do, and they have only followed the example of the European architects of the past several centuries. All architecture since the Renaissance has been imitative in method and alien in origin. Good architecture has consisted, first,

telligent in their imitation than have the architects of other countries, and whatever distinction American architecture has any chance of attaining must depend upon the display of similar merits. As a matter of fact, American architectural development has depended upon the display of similarly meritorious qualities. It would have been absolutely fatal for American architecture in the beginning to have been anything but a reproduction of

traditional European forms, because native forms were entirely lacking. The only way a local tradition could be introduced was by the gradual transformation of the more appropriate Eu-

associations; and it is by the power which certain architectural forms have of arousing such associations that they are endowed with warmth and life to the architect and his public. Thus the



CENTRAL CONGREGATIONAL CHURCH (1891).

Providence, R. I.

ropean styles. A national architecture cannot be constructed merely by the intelligent adaptation of local materials and building methods to local practical problems. In order to be interesting, buildings must be charged with human

fact that America was a new country increased rather than diminished the necessity for a systematic policy of imitating traditional European forms; and once the practice was begun, it had to be carried through to its logical con-





Hudson St., New York City.

PIERCE BUILDING (1891).



MAIL AND EXPRESS BUILDING (1891)—FULTON STREET FACADE.  
Fulton St. and Broadway, New York City.



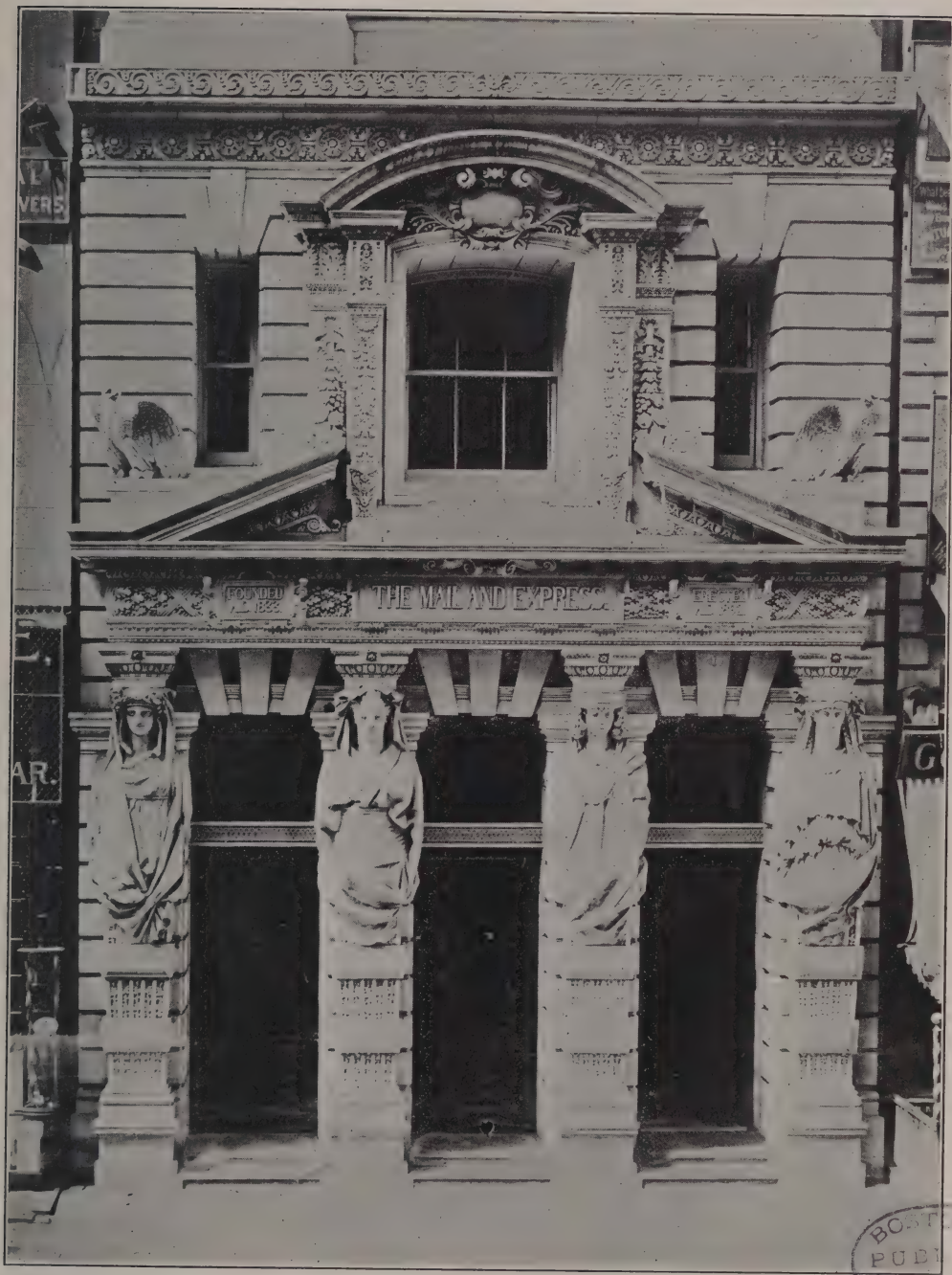
clusion. It had to be continued, until both the architect and his public became tired of mere imitation, and sought to discriminate between imitation which had become an indiscriminate, mechanical and useless copying of European styles and one which exercised both an intelligent discrimination among these styles, and which began the process of intelligently adapting them to American conditions and needs.

As a matter of fact, American architecture has passed gradually from a habit of indiscriminate and incompetent imitation into a conscious practice of more discriminate and more competent imitation. In the beginning it was Georgian, because the colonies were or became English colonies; and it was as natural for an American merchant to build a Georgian house as it was for an English merchant. It continued to be Georgian for a decade or two after 1789, because Americans knew no other way of building; but the tendency to add porches, supported by huge columns, provided the transition to the next step. The Classic revival followed, in the adoption of which the American architect was merely obeying an imitative idea, which extended to Europe as well, and whose adoption could be defended by a vague association between democracy and classicism. It was a mistake, of course, but it was a mistake which was partly redeemed by the single-mindedness and sincerity with which it was accepted; and because of this sincerity, American architecture owes some of its best buildings to the Classic revival. As it happened, however, the Classic revival was coincident with social and economic changes in American life, which temporarily brought about a debasement of all technical and intellectual standards. The Classic revival was succeeded by a period of wholly indiscriminate, unintelligent and incompetent imitation of European styles; and this fact was particularly unfortunate, because it occurred in the decade preceding and succeeding the war, when the increase of wealth in the Eastern States resulted in a revival of house-building. The commercial architects of the time used to advertise

that they kept in stock plans for all kinds of houses, in any known style. It was not enough to offer the public a choice between a "Greek," a Gothic and an Italian villa. Swiss chalets and Oriental kiosques were considered necessary for the satisfaction of the American democrats' varied individual tastes in houses, and in certain cases, such as "Armsmear," near Hartford, deliberate attempts were made to combine Classic Gothic, Italian, Swiss and Oriental features in one single building. But such aberrations occurred toward the end of this phase of American architectural history, which was due to a temporary obliteration of all technical, intellectual and artistic standards—literature alone excepted.

During the decade immediately succeeding the war, a beginning was made towards the re-establishment of a higher technical standard in architectural design, and towards a more intelligent and selective habit of imitation. Certain architects, many of them of English birth, and all of them more or less under the influence of Ruskin, began a much more sincere attempt to introduce an American Gothic tradition than any which had yet been made; and in so doing they were really taking up the thread of American architectural development at the point where it had fallen from the hands of the Classic revivalists. Their influence, reinforced by that of Eastlake in interior decoration, dominated what architecture there was in this country almost to 1880. It had the advantage of being more scholarly, better equipped, and more earnest than any movement which had yet made a contribution to American architecture; but its effect was rather moral and technical than stylistic. The younger men brought up in the offices of these Gothic revivalists rarely remained true to the stylistic bias of their masters; but they inherited a sounder technical equipment and an equal amount of sincerity and enthusiasm, and they added thereto a still livelier disposition to individual self-expression.

The phase which succeeded the Gothic revival is confused and is characterized



MAIL AND EXPRESS BUILDING, BROADWAY ENTRANCE.

BOSTON  
PUBLIC  
LIBRARY





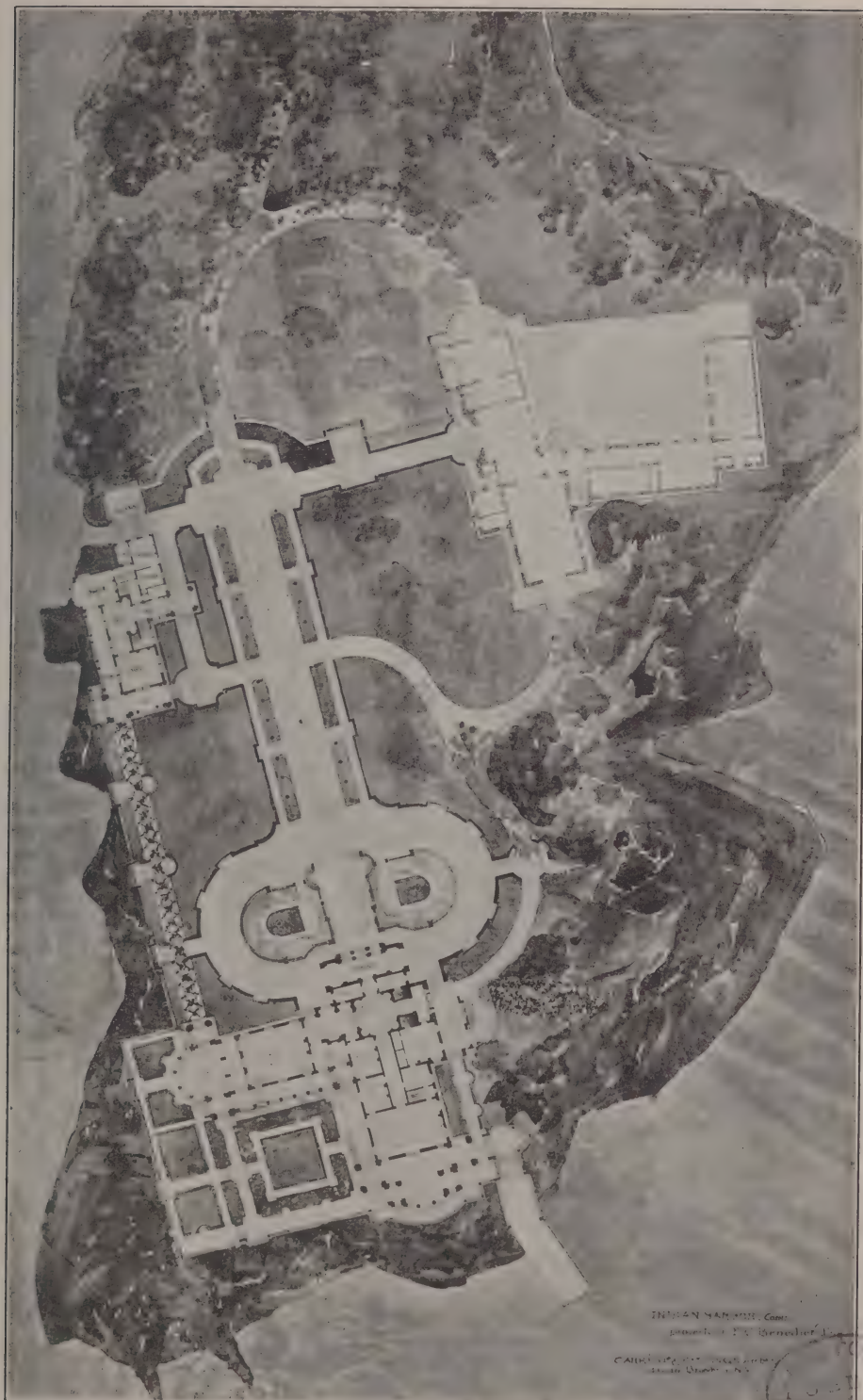
Mail and Express Building—Tower.  
New York City.

by conflicting tendencies; but it becomes comprehensible in the light of the development of American architecture after 1885. These intervening years were remarkable for the tremendous power ex-



Methodist Church—Tower.  
St. Augustine, Fla.

ercised by one man—Richardson—who, by the force of his example, added the weight of the Romanesque revival to the series of our architectural experiments. But this experiment was at bottom no more than a personal *tour de*



Greenwich, Conn.

ESTATE OF E. C. BENEDICT, ESQ. (1891).





The House From the Entrance.



Formal Garden.  
RESIDENCE OF E. C. BENEDICT, ESQ. (1891).

Greenwich, Conn.

force. While the Romanesque revival did not long survive the death of its originator, the individual power exhibited by Richardson had its analogies in the work accomplished at that time and later by such architects as Root, Babb, Haight, Cope and Post. The work of all of these and other similar designers has been characterized by great power and consistency in the expression of a single style; but they belong to the period whose most vigorous exponent was Richardson. Richard Morris Hunt must be attached, chronologically, to this

ments was by way of being chaotic and confusing. It was reserved for another firm to bring to this "battle of the styles" the force of still another example—the force, that is, of a very special interest in the Italian Renaissance. The firm of McKim, Mead & White belongs, in its origin, to the group of architectural contemporaries and successors of Richardson, which has been mentioned above. Its earlier work was characterized by a bias towards the freer architectural forms which had found favor with the majority of that group; and only after



RESIDENCE OF E. C. BENEDICT, ESQ.—WATERFRONT VIEW.

Greenwich, Conn.

same group, but the influence of his work was different, because it combined less individuality with more eclectic tendencies—a more scholarly knowledge, and wider sympathies.

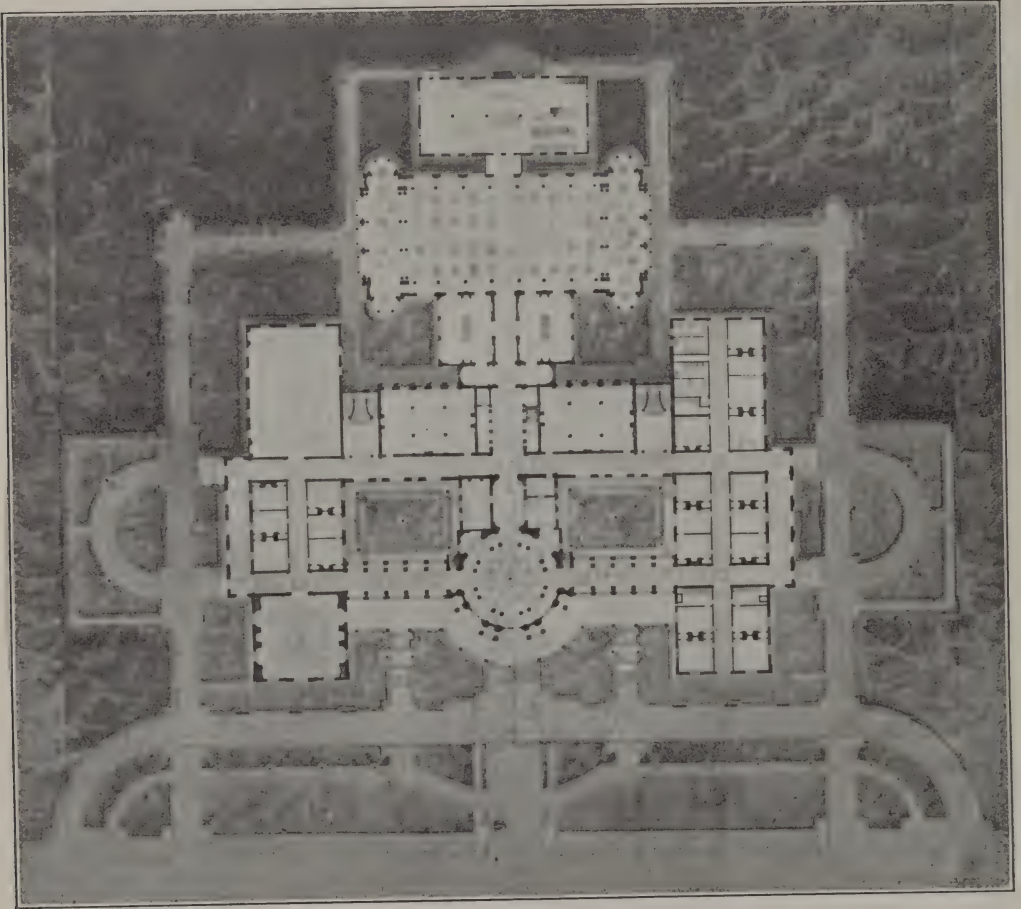
All of the able designers mentioned above were traditionalists, in that they made no attempt to depart from the American convention of imitation; but most of them sought, by the force of their own example to recommend to their associates and the public, one particular architectural style. And for this very reason the result of their experi-

some years of joint practice did the work of the firm exhibit a marked predilection for the models and forms of the Italian Renaissance. When this tendency first appeared, the contemporary critic might have supposed merely that one more combatant had been added to the "battle of styles"; and this account of the matter would not have been wholly devoid of truth. But it was also true that the new belligerent was destined to put up a much more successful fight than his older rivals. Neither was its comparative success due merely to the



great ability of the individual architects, in whose buildings the early Renaissance forms were embodied. The profound sympathy and understanding which McKim, Mead & White had for Renaissance architecture had much to do with the influence which their work had upon their associates and successors; but of equal, if not greater, importance was

tually began with the Italian Renaissance; and it is only by virtue of an almost heroic effort of the imagination that a contemporary individual can bridge the distance which separates him from the Middle Ages. The task is not beyond individual power; and it is to be hoped that peculiarly gifted men will persist in the attempt to renew those



LAUREL-IN-THE-PINES—FIRST FLOOR PLAN.

Lakewood, N. J.

the fact that they popularized by their example a specific tradition, much better adapted to American needs than any or all phases of the Gothic, Romanesque or purely Classic architecture.

The architectural tradition of the Renaissance was peculiarly adapted to American needs for many different reasons. In the first place, the intellectual life of modern Europe and America ac-

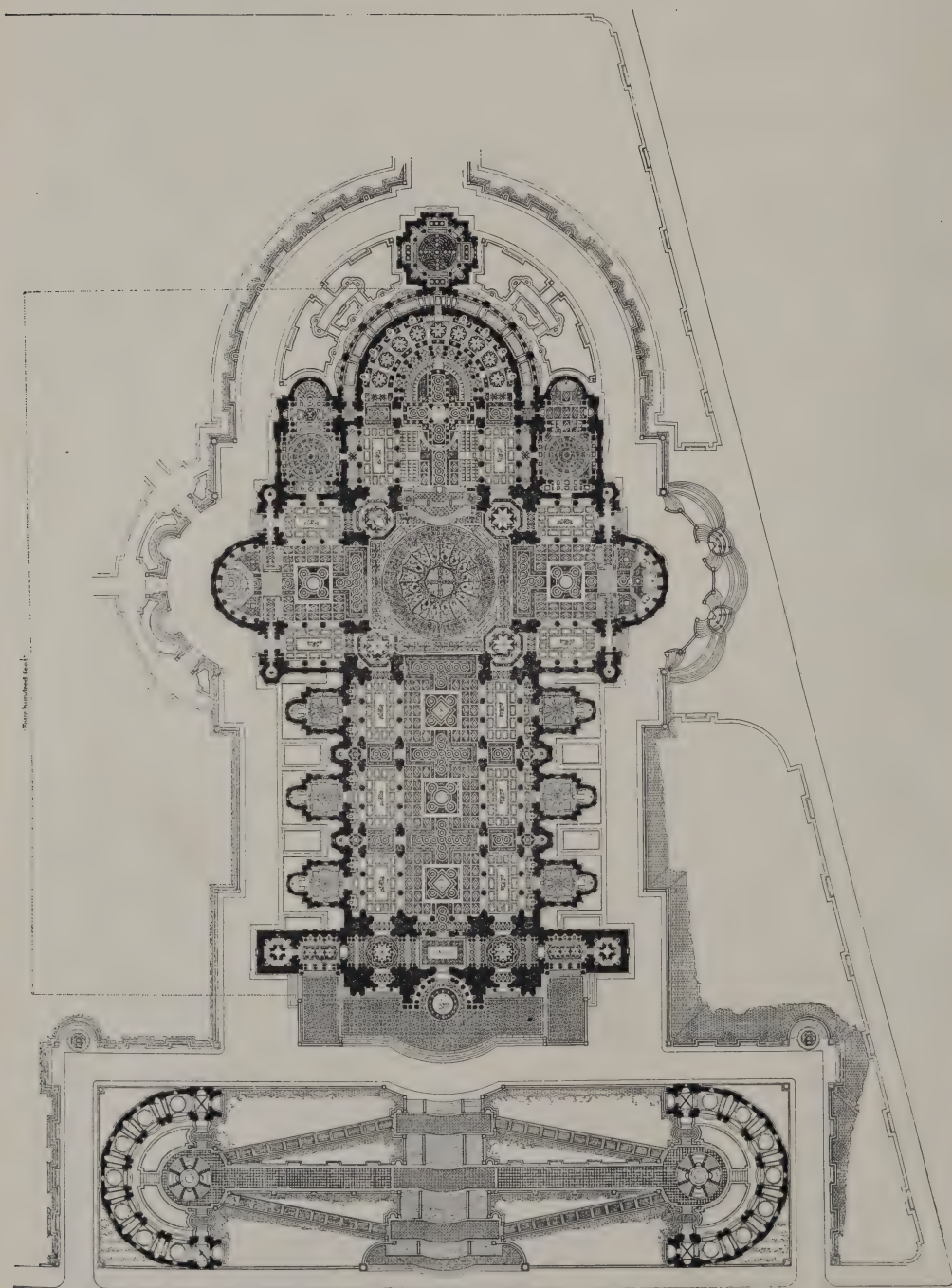
ideals and forms of mediæval life which are worth perpetuation. But they should not for the present expect many imitators, and they must be content to acquire that kind of goodness which is inseparable from loneliness. Their example is in truth incompatible with the spirit and tendency of modern life, and in particular of modern architecture. Modern architecture, European as well



LAUREL-IN-THE-PINES (1891).

Lakewood, N. J.





COMPETITIVE PLAN FOR THE CATHEDRAL ST. JOHN THE DIVINE.  
New York City

as American, is necessarily imitative; and the work of imitation has a logic of its own, which cannot be violated with impunity

Ideals, examples and forms capable of fruitful imitation must possess a certain flexibility and universality. They must be the result of general and widely diffused intellectual sympathies and ideals,

because the Roman influence in the civilization of the fifteenth century was alive, but submerged. It was merely brought to the surface by the Renaissance; and the success of that period in renewing a long-distant past, without losing the quality of being modern and contemporary, was a triumph for conservative intellectual reform. It showed



COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE (1892).  
New York City.

instead of highly specialized intellectual sympathies and ideals. Now the ideals and sympathies of the Renaissance were themselves imitative, flexible, universal and broadly sympathetic. They were the result of a partly artificial attempt to revive Roman traditions, forms and examples; but the attempt was less artificial than it seemed,

that a people could be imitative without any necessary sacrifice of individuality, and that they could be innovators without losing touch with a corrective and leavening tradition.

The Renaissance revival initiated by McKim, Mead & White made, consequently, a much livelier and more permanent appeal to the American public





Jenkintown, Pa.

RESIDENCE OF JOHN PITCAIRN, ESQ. (1893).



Amherst, Mass.

AMHERST CHAPTER HOUSE (1888).



RESIDENCE OF MRS. R. H. TOWNSEND (1893).  
Washington, D. C.



KUNHARDT MAUSOLEUM (1896).  
Moravian Cemetery, New Dorp, S. I.

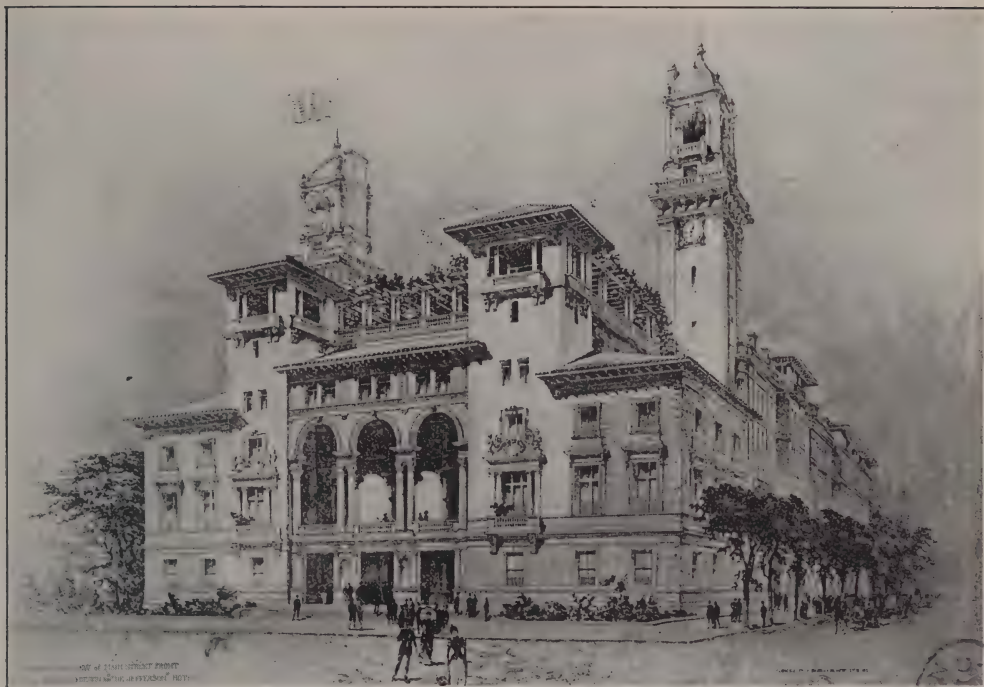


than had the preceding Classic, Gothic and Romanesque revivals. It placed before them familiar and beautiful architectural forms, which could be successfully imitated without any extraordinary individual imaginative effort, but which at the same time worthily embodied the spirit of a great architectural movement. McKim, Mead & White were not, like Richardson, imposing an individual preference on a fascinated but restricted body of admirers. They were interpreting to the American public the lesson in architectural history which it had to learn. They were anticipating the American need of an architectural style which could be imitated without either being falsified or re-created in the process; and for that reason their influence has been much more formative than that of any of the group out of which they issued. Their example was not only, like that of Richardson, influential, because it was powerful; but it was even more influential because it was prophetic. It was based upon a correct criticism of the comparative value for the purposes of modern American architecture of the several leading architectural traditions.

It rarely happens, however, that the full consequences and meaning of any innovation are brought out in the work of the original innovator; and, as a matter of fact, such has been the case with McKim, Mead & White. Representative as they were, on the whole, of the better architectural purposes of their day, and prophetic as their work was of the actual course of American architectural development, both the lesson and the prophecy failed in certain respects of being complete. For one thing, the Renaissance, both in architecture and in even other departments of technical work, has stood for very many different tendencies. If it be admitted that a sane critical judgment will select the Renaissance as the most available point of departure for American architecture of the present and the future, the further question remains to be asked whether every aspect of the Renaissance is equally available for the purpose. Should the selection be carried any

further? Are there any good reasons for preferring any one to any other phase in the development of Renaissance architecture? The answer which the work of McKim, Mead & White makes to such questions cannot be other than ambiguous. On the whole, the aspect of the Renaissance with which they were most in sympathy was its earlier Italian phase, and this preference dominates their work. But they have not been excluded thereby from borrowing the forms of almost every other architectural phase of the movement. They have not scrupled to build French seventeenth century châteaux and Georgian mansions, as well as early Italian villas, while in other cases there is obviously an ingredient in their work derived from Palladio and his imitators. Nor is this all. In two or three conspicuous buildings they have preferred to go direct to Roman models for inspiration, and in at least two cases with peculiarly conspicuous success. Hence it would seem that they could not attach much importance to the selection of any one phase of Renaissance architecture as better for American purposes than any other phase. They preferred, in this respect, to keep their liberty; and they retained in this choice a surviving trace of the mixture of individualism and eclecticism which had characterized in general the group out of which they had issued.

In another respect, also, McKim, Mead & White failed to be representative of the later tendencies in American architectural development. They have not had, to the same extent, the benefit of the school training which has had such a profound influence on so many of their contemporaries and followers. By the foregoing statement, we do not mean, of course, that they were not sufficiently well-informed and well-equipped architects in every technical respect. Neither do we mean to affirm that the school training which the great majority of the younger architects have enjoyed has been wholly advantageous to the quality of their work. The fact remains, however, that like the majority of the group from which they issued, they received the best part of their schooling in the



JEFFERSON HOTEL (1893).



JEFFERSON HOTEL—GLASS-COVERED INTERIOR COURT.

Richmond, Va.



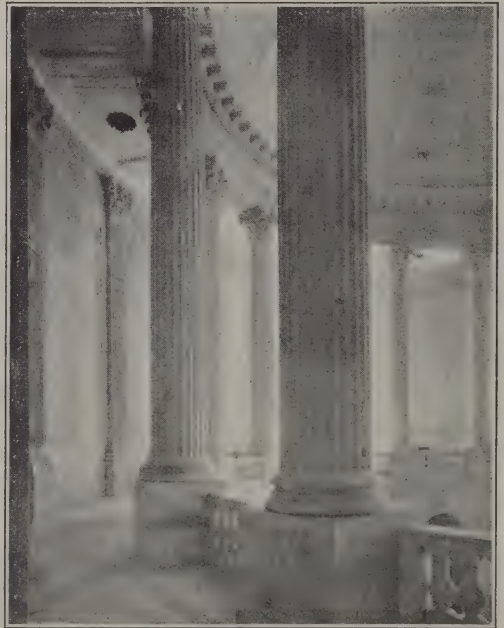


Jefferson Hotel—Upper Court.  
Richmond, Va.

offices of older architects, and in this respect they differed from their younger associates. Within certain limits, the comparative absence of school training was, considering the kind of work they were destined to do, an advantage to them. In all probability they would never have expressed so freely, so spontaneously, and so sympathetically varied aspects of the Renaissance tradition, in case they had been passed through the rigid discipline of the school; and in that event they would have exerted a less powerful personal influence on the course of American architectural transformation. But, on the other hand, the extent to which they were sympathetically possessed by the spirit and the architecture of the early Renaissance had at least one less desirable effect upon their work. They were fascinated by the effect of these Renaissance buildings, and they sought, above all, to reproduce a similarly seductive and persuasive effect in their own version of these traditional forms. They succeeded brilliantly, but their success entailed

certain penalties. In order to obtain the effect they were frequently far less scrupulous about the economy and the propriety of their plans than a school-trained architect would have dared to be. On the whole, they tended to sacrifice plan to design, and to consider a building chiefly as a matter of a handsome exterior. Assuming that some such sacrifice was necessarily associated with their brilliant and peculiar success, and with the powerful influence they exerted, the game was assuredly worth the candle; but a technical method, which was in their case justified by its results, might well be demoralizing to less capable imitators. As a matter of fact, very few of the younger architects followed their example in this respect. The more rigid training of the latter saved them from the danger of over-emphasizing an aspect of a complete building, which, essential as it is, should in the interest of thoroughly good work be made subordinate to the plan.

The younger associates of McKim, Mead & White have, consequently, varied from the practices and example of



Senate Office Building—Rotunda.  
Washington, D. C.



RESIDENCE FOR RICHARD M. HOE, ESQ. (1893).  
11 East 71st St., New York City.





LIFE BUILDING (1893).  
17 West 31st St., New York City.

that firm chiefly in two respects. They have tended to restrict the choice of their adopted forms to much narrower limits; and in general they have preferred the French to the Italian phase of the Ren-

ries from any such transposition of fundamental architectural values as are involved in the sacrifice of the plan of a building to its design—which is, at bottom, equivalent to the sacrifice of the



Paterson, N. J.

PATERSON CITY HALL (1893).

aissance. Moreover, their preference for the French architectural tradition has been the natural result of their school training at the Beaux Arts in Paris, and this training, whatever its disadvantages, effectually prevents its beneficia-

function of a building to its appearance.

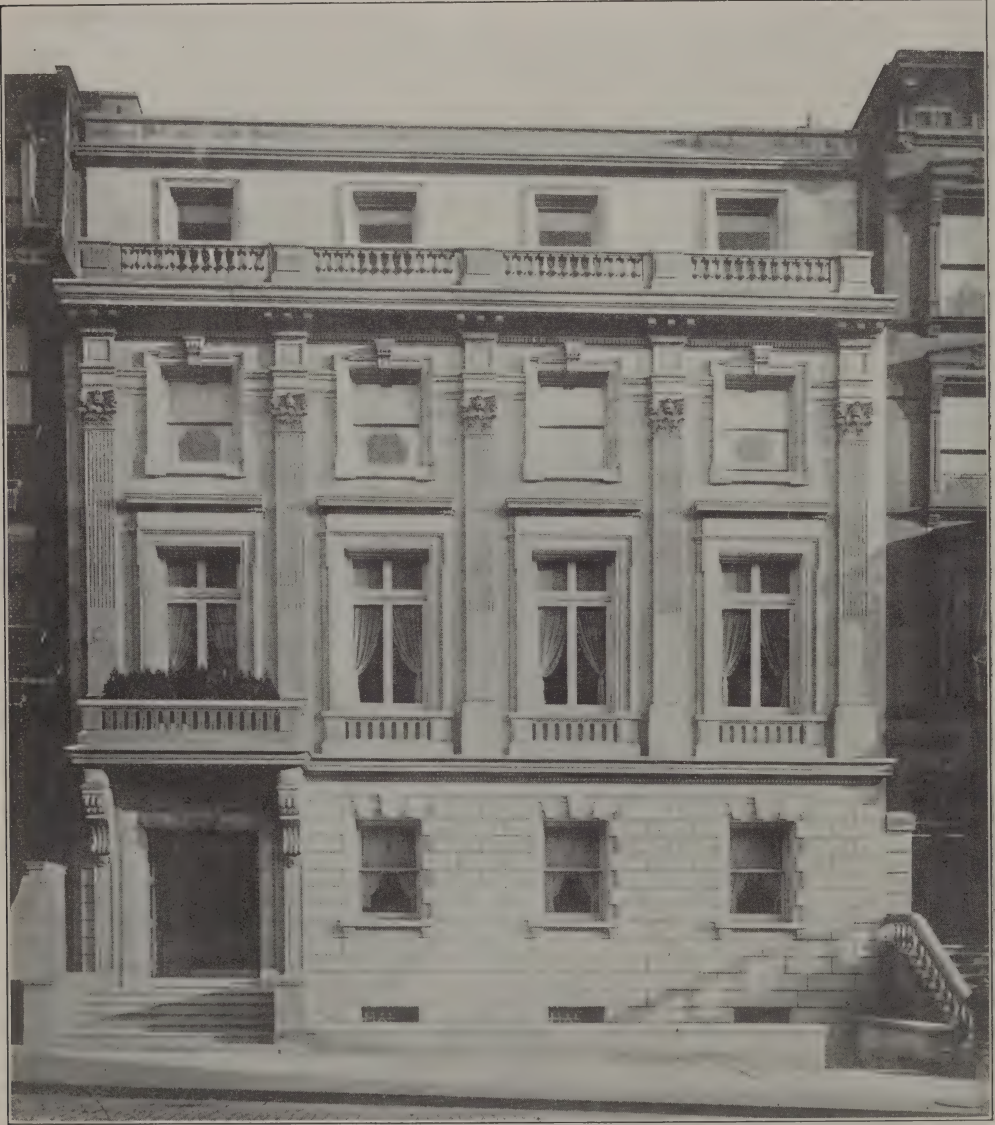
\* \* \* \* \*

The foregoing account of the predecessors and contemporaries of Messrs. Carrère & Hastings was a necessary preliminary to a specific description of



the meaning and quality of their work and of their place in American architectural development. As was stated in the opening section, Carrère & Hastings have shared with McKim, Mead &

their work and the extent of their influence. In certain respects, Carrère & Hastings have merely confirmed and reinforced the example of McKim, Mead & White. Indeed, both Mr.



RESIDENCE OF DR. CHRISTIAN HERTER (1893).

819 Madison Avenue, New York City.

White the distinction of being the peculiarly conspicuous and successful architects of their own day. These two firms occupy a class by themselves in respect to the volume and variety of

Carrère and Mr. Hastings performed their earliest practical work in the office of McKim, Mead & White, just as Stanford White himself occupied a stool in the office of Richardson and Charles

F. McKim in that of Russell Sturgis. At the time, however, when Messrs. Carrère & Hastings were working with the firm of McKim, Mead & White, the later practice and policy of that firm

shingled dwellings, and it was not until about the time of the departure of Mr. Carrère and Mr. Hastings that the policy of the firm began to change. From the very beginning of their practice, Carrère



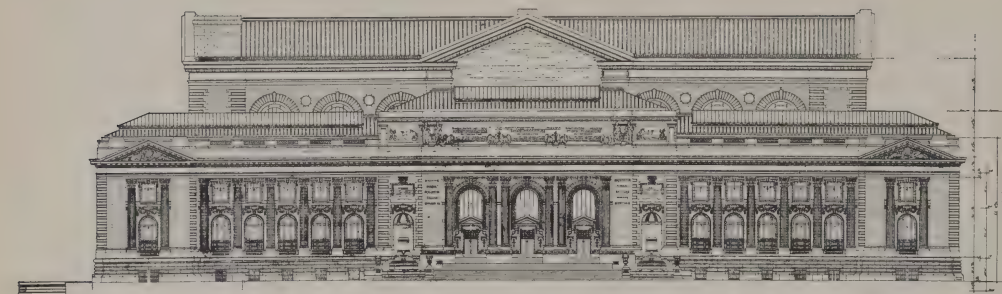
RESIDENCE OF H. T. SLOANE (1894).

18 East 68th St., New York City.

had not been definitely developed. Their employment in McKim, Mead & White's office was coincident partly with the firm's earlier period of gabled and

& Hastings arrayed themselves on the side of the Renaissance revivalists. They understood, also, that the architectural language of that period was more pre-

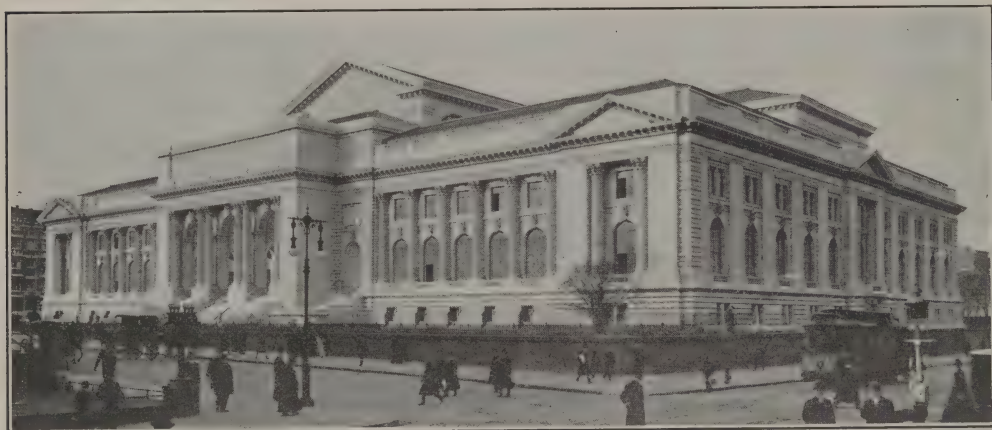




FRONT ELEVATION.

cisely translatable into modern American terms than that of any other period, and they understood that it must become the point of departure for the gradual establishment of a local American tra-

original; but for the present, originality is necessarily revolutionary; and there is no meaning in a revolution without an established order from which to revolt. Carrère & Hastings joined with

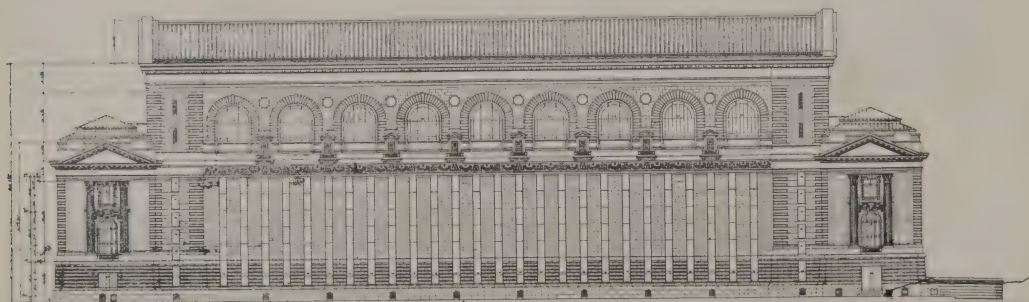


NEW YORK PUBLIC LIBRARY (1897).

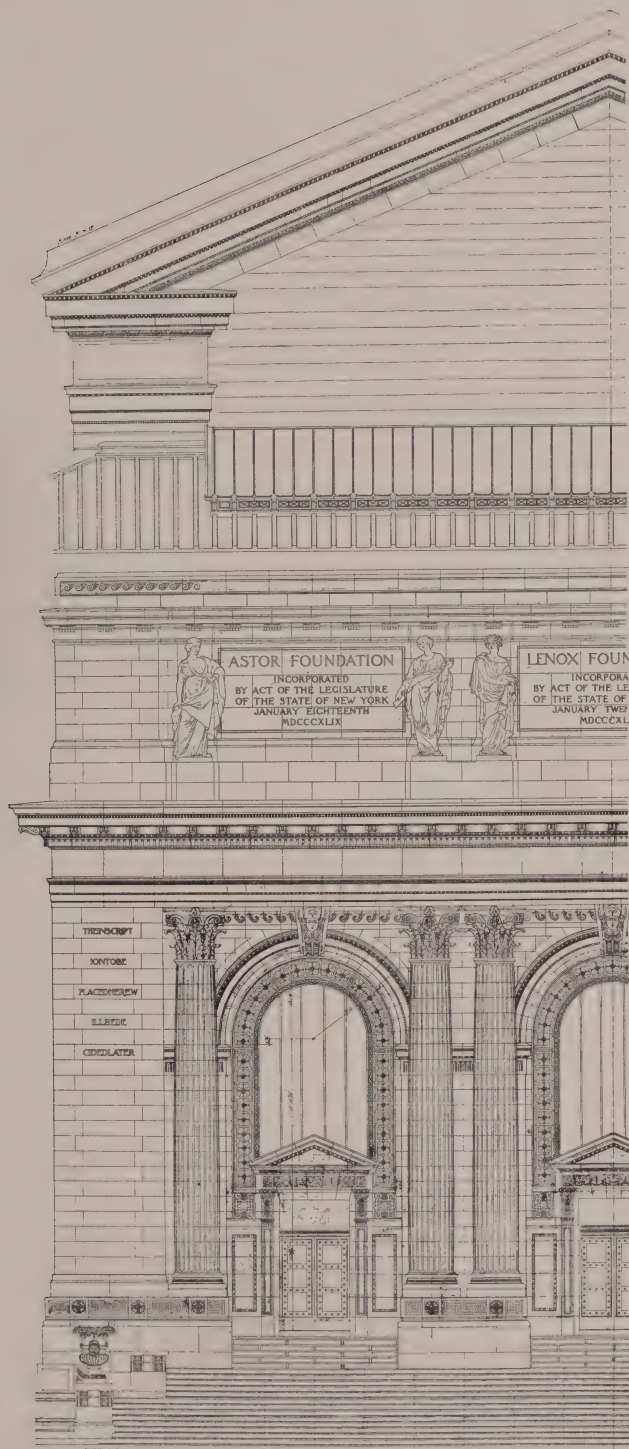
Fifth Avenue, 40th to 42d Sts., New York City.

dition. They were not betrayed, consequently, by an illusive pursuit of mere originality. The time may come when American architects can afford to be

McKim, Mead & White in the attempt to establish an order, and they looked in the same direction for the necessary material. They understood that a local

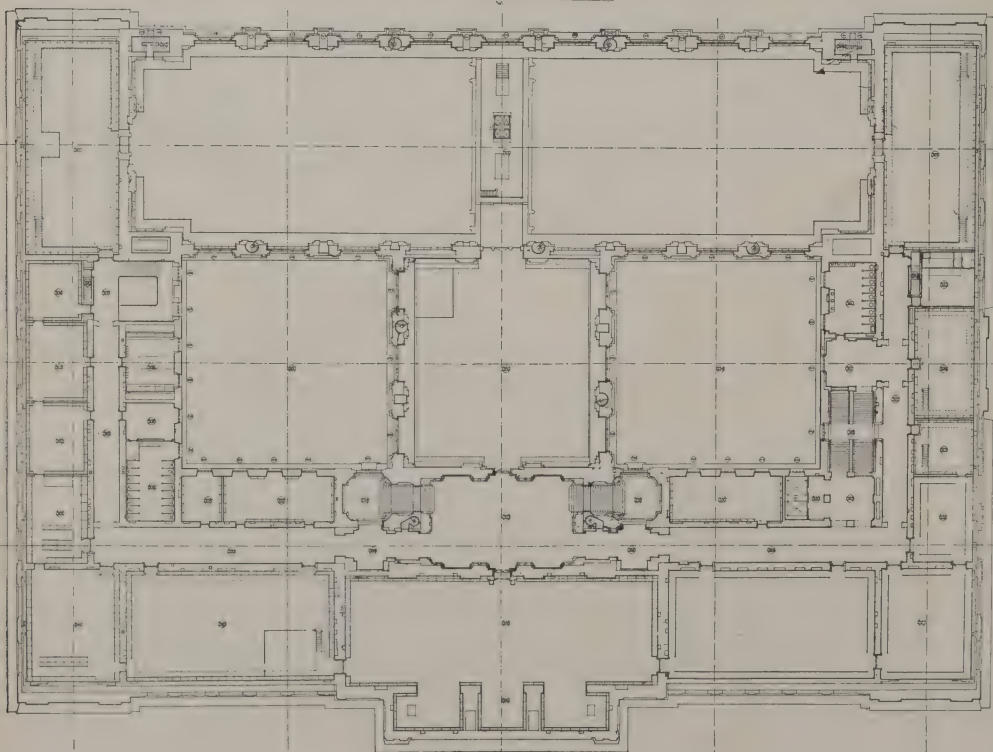
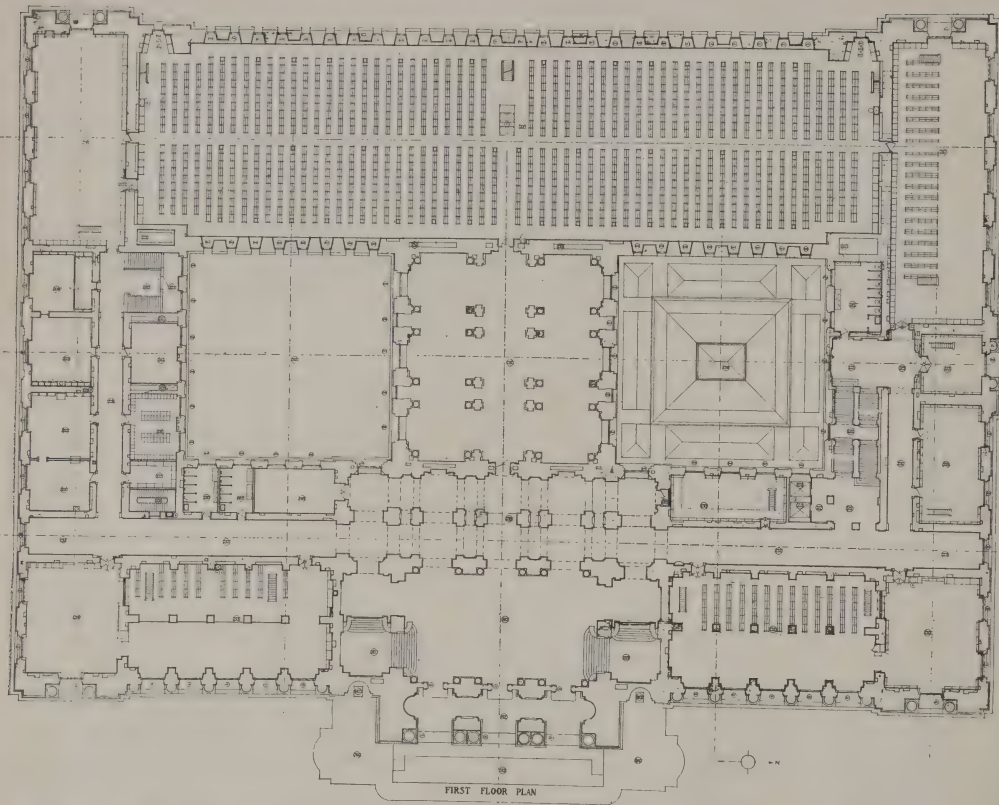


REAR ELEVATION.



NEW YORK PUBLIC LIBRARY—DETAIL OF CENTRAL PAVILION.





Second Floor Plan.  
NEW YORK PUBLIC LIBRARY.

American tradition must be founded upon an antecedent European tradition, because acceptable architectural forms must be served up with a garniture of splendid associations and of unimpeachable authority. The notion that Americans can for many generations dispense with such associations and create a group of local realistic forms, based upon the peculiar function and structure of American buildings, can receive no countenance from a study of architectural history. The ideal on which such a notion is based is an æsthetic ideal, which is impossible of application and which, so far as applied, would be sterile in its general results.

Upon the foregoing point the great majority of American architects have always been agreed, but when Carrère & Hastings began to practice there was no similar consensus of opinion as to the nature of the architectural style best adapted to American purposes. Carrère & Hastings share with McKim, Mead & White the credit of having originated and popularized the Renaissance revival. That revival was bound to come, in any event, for reasons which we have already indicated; but the completeness of its triumph and the form which it has assumed were due to the decisive influence of these two firms. If their work had not been intruded into the course of American architecture just when it was, the Renaissance revival in this country might have been submerged under a deluge of modern French architectural forms and fashions, which would have really threatened the prosperity of our American architectural future. The example of these two firms gave, however, an initial dignity and authority to the older Renaissance forms, which proved to be educative to the American public, and which saved this country from becoming an architectural dependency of modern France. Thus their influence was both radical and conservative. It was radical in that it sought to establish a tradition of architectural style, for which there were no authoritative precedents in this country. It was conservative in that it gave that style an expression, based upon its

better, more flexible and more dignified phases.

United, however, as McKim, Mead & White and Carrère & Hastings were in their devotion to the better phases of Renaissance architecture, a no less emphatic difference is to be observed in the respective policies of the two firms. Carrère & Hastings almost immediately selected as their own one of the several sub-styles of the Renaissance; whereas, McKim, Mead & White, as we have seen, jumped, much as they pleased, from one to another phase of the Renaissance down to the end of the eighteenth century. Moreover, this selection by Carrère & Hastings was the result not merely of personal preference, although personal preference may have had something to do with their choice. It was founded upon a critical interpretation of modern architectural history. They selected as the style which gave American architects their best opportunity, that of France towards the middle of the eighteenth century; and this style was preferred, because it marks the termination of Renaissance architectural development. Up to that time or a little later, the Renaissance forms had passed through many different phases, some better than others, but all of them based upon an intelligent attempt to give those forms a more consistent expression and to adapt them more completely to novel and contemporary needs. This effort culminated in the domestic architecture of France in the eighteenth century. Thereafter came the Classic and the Gothic revivals, which attempted impossible tasks and which broke the continuity of Renaissance architectural development. They argued that the best course which American architecture could take at the present time would be, consequently, to pick up the thread of Renaissance architectural development at the point where it was dropped towards the end of the eighteenth century, and so to restore the architectural vessel to its true and profitable course.

Such is the theory upon which in general the policy of Carrère & Hastings has been based; and its plausibility



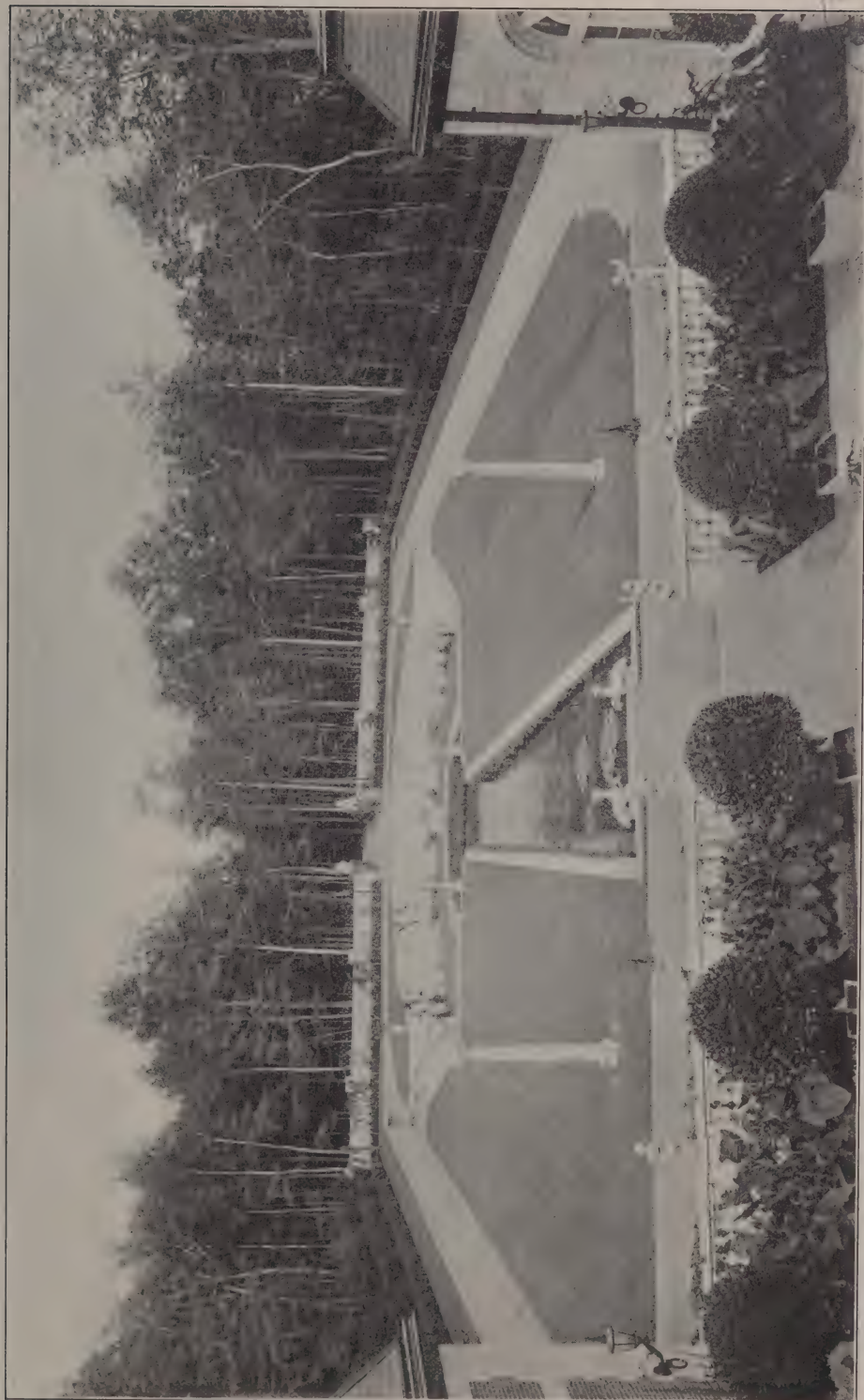


"BELLE FONTAINE," RESIDENCE OF GIRAUD FOSTER, ESQ. (1897).



"BELLE FONTAINE," ENTRANCE LODGE AND GATES.

Lenox, Mass.



COURT AT "BELLE FONTAINE."

Lenox, Mass.



and persuasiveness must appeal to every disinterested person. The Classic and the Gothic revivals were mistakes which have interfered with the continuity of architectural development, and which diverted much sincere and enthusiastic architectural endeavor to unprofitable courses. It was simply a case of one extreme passing because of its own excesses into another. A frigid but bloated pseudo-classicism tempted its

rère & Hastings. These forms would not be of much help to the American architect in the design of business buildings; but for public buildings of various kinds and for private dwellings, whether situated in the city or the country, they have certain emphatic advantages.

The better French architecture of the eighteenth century was admirable in a number of essential respects. During the seventeenth century French architects



RESIDENCE OF GIRAUD FOSTER, ESQ., STAIRHALL.

Lenox, Mass.

enemies to seek relief in a pseudo-Gothicism, and unless architectural development is to come to an end, this tendency to pass from one extreme to another must be broken. American architects, unless they are content to allow American architecture to remain a sterile battle between a multitude of stylistic sects, must agree to accept the authority of certain specific forms; and a very persuasive argument can be made in favor of the specific forms preferred by Car-

had dispensed with the anachronisms and the rudimentary survivals characteristic of the early Renaissance châteaux. They had made their domestic buildings a consistent and dignified expression of contemporary needs; but they had also made them so grandiose that they became tiresome places in which to live. During the eighteenth century mere grandeur gave place to a much more charming, an intimate kind of house, which succeeded in keeping the distinc-



RESIDENCE OF GIRAUD FOSTER, ESQ.—VESTIBULE.

Lenox, Mass.



tion and dignity of the older châteaux while doing away with its tendency to pretentious dullness. At the same time, the French architects were seeking for the first time to work out a satisfactory style of urban architecture which should take the block, rather than the individual house as the unit of the design; and in this attempt they were extraordinarily successful. Paris, in the case of the Place Vendôme, contains assuredly the most consistent, the most beautiful, the most appropriate and the most charming design for a small square of any city in the world. It may be emphatically asserted, consequently, that American architects could not select any one Renaissance sub-style better adapted to their needs than that of eighteenth century French. It contains in a peculiar degree the combination of being both modern and traditional, and of being both charming and dignified. It is fresh without being flippant or trivial; and it is conventional without being lifeless and dull. Its manners, that is, are perfect; and good manners are, of course, precisely the great need of American architecture. Carrère & Hastings have been as successful in giving a modern American version of these good French architectural manners of the eighteenth century as McKim, Mead & White have been in sympathetically interpreting some of the earlier phases of Renaissance architecture.

What, however, is likely to be the judgment of the future upon their variation in policy from that of McKim, Mead & White? Were they right in selecting their own architectural models from one particular phase of Renaissance design? And can their own special choice of French eighteenth century be justified? Are there any good reasons to suppose that American architecture should or will submit to the authoritative guidance of this particular Renaissance sub-style?

It is too soon to assert dogmatically that Carrère & Hastings were or were not right in their policy, and in the reasons whereon it was founded. But while a final answer to these questions must be reserved for the future, one may

make a guess from the practice of the younger American architects as to the answers which these questions will eventually receive. Our own guess would be that Carrère & Hastings were wrong in certain respects and right in others. They were right in claiming that each individual architect should narrow the area of his choice to one specific Renaissance sub-style, because the ordinary and frequently even the exceptional designer is likely, under such a condition, to do more consistently good work. The several phases of Renaissance architecture are united by both historical and logical bonds; but they are separated by many essential differences of function, of social background and of purely contemporary needs. How different the whole artistic and social atmosphere of the Villa D'Este and Palladio's Villa of Capra. What a long road must be traveled in making the transition between either of them and the Château of Vaux-le-Vicomte? Are there not more differences than similarities between the assured distinction of the Petit Trianon and the timid correctness of the Georgian mansion of some English merchant? Most certainly these differences can be and have been bridged; but they are bridged more by flashes of sympathetic insight than by settled habits of architectural thought. The man who bridges them successfully is most likely to do so while under the fascination of some particular building; and the attempt to adapt particular buildings to novel surroundings is dangerous for any but the ablest and most conscientious architectural designers. The best course for the majority of architects is to accept the authority of some narrower convention and to train themselves to think clearly and fruitfully in those particular terms. Only on some such condition is he likely to obtain a complete mastery of his architectural language. Only by repeated experiments in the use of such a language can he acquire the sort of control of it which would have been instinctive with its originators; and, as a matter of fact, the example of Carrère & Hastings has been the one which the



RESIDENCE OF WALTER JENNINGS, ESQ.



RESIDENCE OF WALTER JENNINGS, ESQ. (1897).

Cold Spring Harbor, L. I.



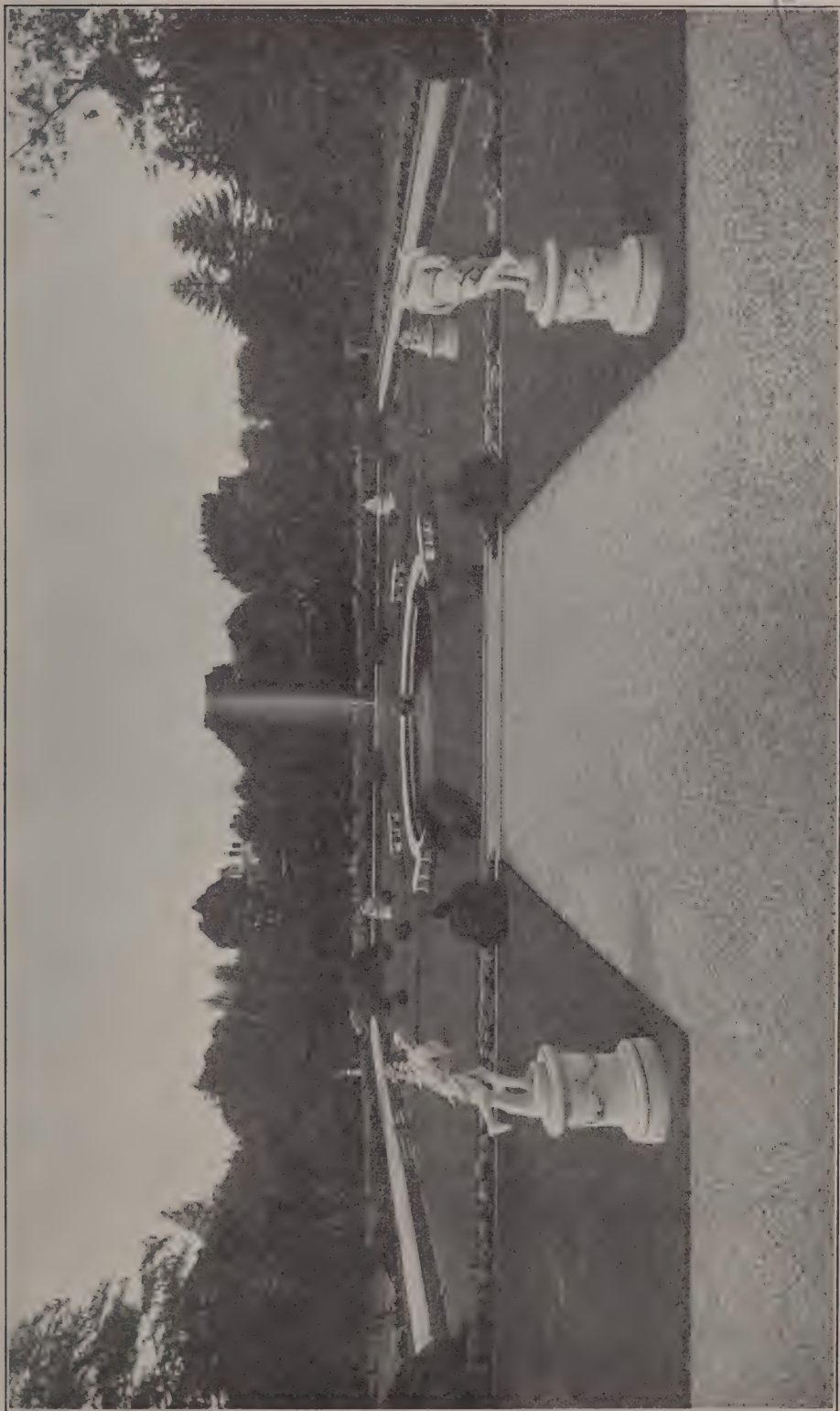


RESIDENCE OF MRS. RICHARD GAMBRILL (1898).



RESIDENCE OF MRS. RICHARD GAMBRILL—LIVING ROOM.

Newport, R. I.



RESIDENCE OF MRS. RICHARD GAMBRILL—FORMAL GARDEN.

Newport, R. I.



majority of their younger contemporaries have followed. The better among the younger American architects are usually faithful in their adopted forms to one particular Renaissance or modern French style.

On the other hand, they have not all been faithful to the same particular style; and it is too much to expect that they will be. No doubt American archi-

of associating individuality with arbitrary personal preferences; and particularly in their relations with the builders of private houses, architects have to consult personal preferences in the matter of style other than their own. For the present, American architects will do as much as can be expected of them, in case they will only remain true to the Renaissance, and not allow an intelli-



RESIDENCE OF MRS. RICHARD GAMBRILL—LOGGIA.

Newport, R. I.

itecture would advance much more rapidly in case the great majority of American architects would accept the authority of one specific style, because in that case their individual experiments would be mutually corroborative and stimulating; and variations, when they intruded, would have to be justified by their real meaning and importance. But this is a counsel of perfection. Americans have a deeply rooted habit

gent eclecticism to become equivalent to hopeless confusion and anarchy. For the present the platform of the Renaissance should be broad enough to include the largest and best part of American architectural practice, while, at the same time, narrow enough to shut out meaningless and sterile Protestantism.

It may be suggested, consequently, that Carrère & Hastings were wholly justified in selecting French eigh-



RESIDENCE OF MRS. RICHARD GAMBRILL—ENTRANCE HALL.

teenth century as the point of departure of their own work, but that they could hardly expect the reasons for their choice to have any sufficient authority for other American architects. They are, of course, historically correct in their assertion that Renaissance architecture ceased to develop after 1775;

and the idea of seeking to pick up the lost thread has a certain attractive plausibility. Yet when the matter is closely considered, one begins to doubt whether a thread which has been dropped can be picked up at will, particularly by an alien people, living under very different social and economic conditions. How-



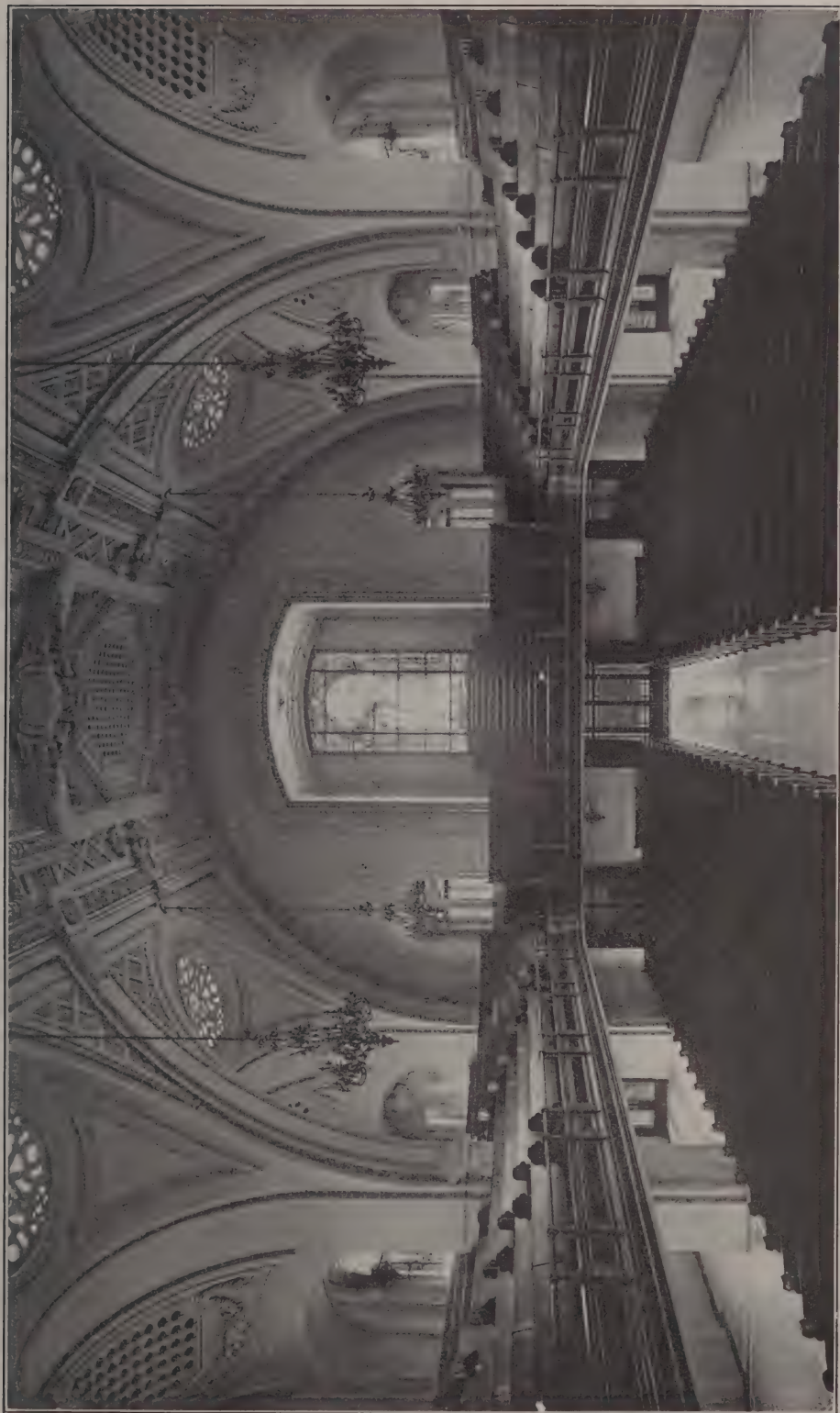
ALTERATION TO HOUSE OF L. S. THOMPSON (1898).

Red Bank, N. J.



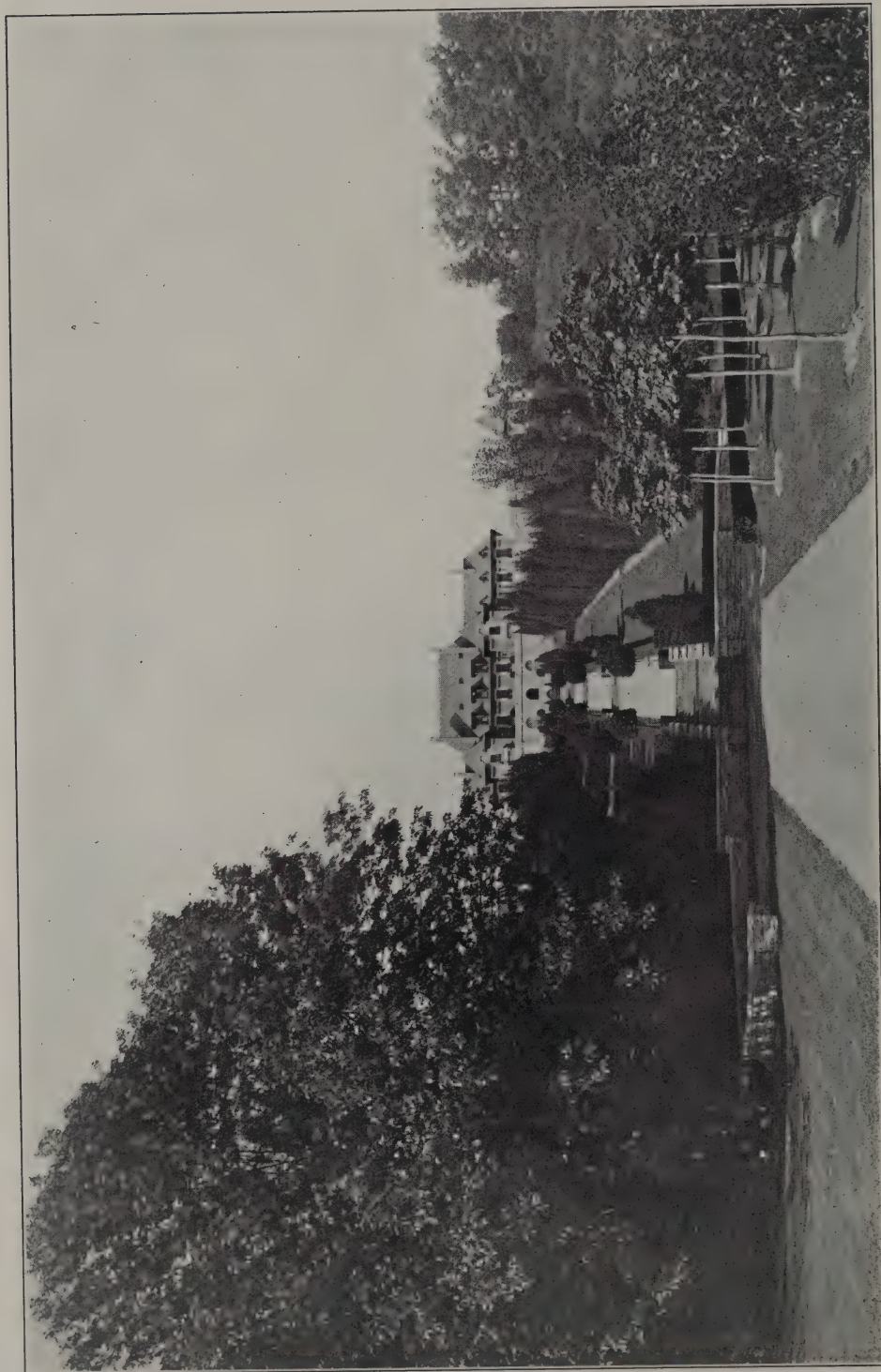


FIRST CHURCH OF CHRIST SCIENTIST (1898).  
96th St. and Central Park West, New York City.



FIRST CHURCH OF CHRIST SCIENTIST-AUDITORIUM.—90TH ST. AND CENTRAL PARK WEST, NEW YORK CITY.





"BLAIRSDEN," RESIDENCE OF C. LEDYARD BLAIR, ESQ. (1898).—HOUSE AND APPROACH.

Peapack, N. J.



APPROACH TO "BLAIRSDEN," RESIDENCE OF C. LEDYARD BLAIR.

Peapack, N. J.



ever much he might like to, an American architect cannot forget all that happened between 1780 and 1880; and whether he likes it or not, he is, as a matter of fact, very much the creature of all those years of wandering in an architectural wilderness. The actual historical thread has disappeared somewhere in the thicket; and even if it could be found, the attempt to resume the interrupted continuity of architectural development is likely to prove futile. Ideals and conditions are too different. The modern world is bound up indissolubly with the world of the Renaissance; but the ties are and must remain general and vague rather than specific and continuous along any one line.

The situation which in general confronts the American architectural profession may then be described as follows. Its practitioners should agree, for the most part, to continue the work of establishing an authoritative convention of Renaissance architectural forms in this country, because by so doing they are putting a fruitful limitation upon the range of their individual architectural experimentation, and because Americans are, whether they realize it or not, children of the Renaissance intellectual revival. But in accepting the Renaissance as the source of their architectural forms, they are, as a whole, under no similar obligation to accept any one phase of the Renaissance. Individual architects will most assuredly do very much better to limit their choice to some particular sub-style; but there appears to be no unimpeachable reason why they should all limit their choice to the same sub-style. It is the Renaissance as a general movement to which they owe their allegiance; and the Renaissance as a general movement is in its architectural expression more a matter of a certain spirit and point of view than it is of specific forms. The Renaissance was itself a revival of Roman architecture; and Roman architecture had borrowed much from the architecture of Greece. Allegiance to the Renaissance means, consequently, more than anything a perpetu-

ation of the spirit resident in Classic architecture—the spirit of repose, of measure without any sacrifice of vivacity, of simplification without attenuation, of style which leaves room for individuality. An architect who can attain to something of this Classic spirit will possess the touchstone, enabling him to give a beautiful and appropriate rendering to any particular set of Renaissance forms best suited to his temperament and purpose. It is just because the Renaissance constitutes our means of historical connection with the Classic ideal that it exercises a peculiar authority over every phase of modern architecture and intellectual life. The Greeks should be our masters in all matters of form; and the artist who attempted to infuse this Classic spirit into the later forms, which he happens to prefer, is merely comparable to the clergyman who seeks to make the dogmas and the ritual of his sect the vehicle of the spirit resident in the Gospels. Neither of them is attempting to impose certain rigid and antiquated forms upon the complex of modern life (as did the Classic revivalists); but both are merely trying to keep a process of imitative reproduction fresh and fruitful by an imaginative re-capture of the spirit of the original.

While it can scarcely be admitted that the forms of French eighteenth century architecture should possess for Americans any exclusive authority, there can be no doubt that Carrère & Hastings, in basing their work upon these particular forms, made a most intelligent and fortunate selection. The reasons which can be urged in favor of this Renaissance sub-style have a great deal of force. Its establishment on American soil was particularly desirable, not because American architects could thereby pick up the lost thread of Renaissance architectural development, but because American architecture was much in need of the qualities and characteristics of the better buildings of France in the eighteenth century. These buildings were, as we have said, a consummate expression of good architectural manners. While they did not have the sub-



"BLAIRSDEN," THE HOUSE.

stance and the breadth of some of the earlier examples of Renaissance architecture born in Italy and in France, neither did they tend to have that palatial character which frequently makes it difficult to adapt the architecture of the

earlier and even of the middle Renaissance to modern American conditions. In dimensions and in general proportions, they were admirably suited to a gentleman's residence; and they possessed the distinction, the attention to



"BLAIRSDEN," THE STABLES.





"BLAIRSDEN," A VISTA TO THE HOUSE.



"BLAIRSDEN," CORNER OF GARDEN AND PERGOLA.

Peapack, N. J.



New York City.

HUDSON PARK (1898).



Buffalo, N. Y.

PAN-AMERICAN EXPOSITION—DETAIL OF PERISTYLE.





A DETAIL OF MRS. GAMBRILL'S GARDEN.

Newport, R. I.

detail, the refinement of taste, the self-possession and the quiet assurance of bearing, characteristic of the gentleman's demeanor. They were not without a certain kind of affectation, but their mannerisms were never trivial or vulgar; and they can be dropped with-

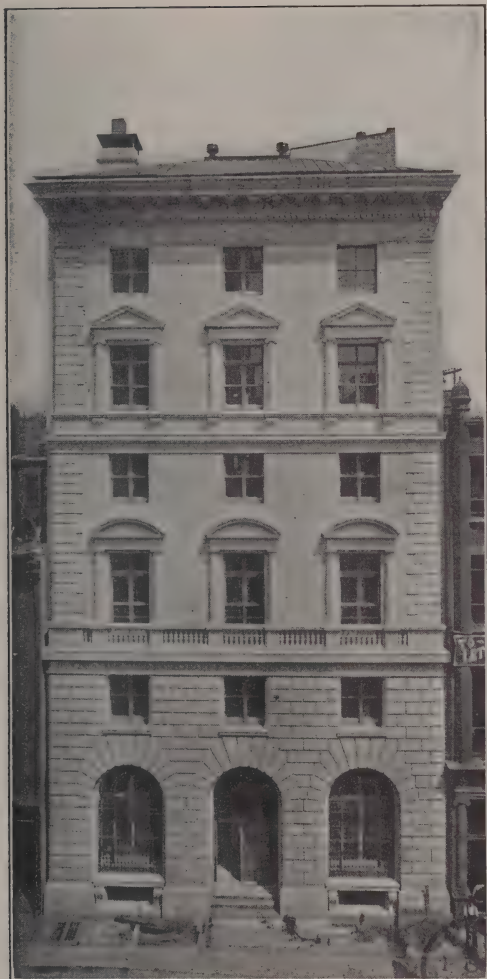
out dropping anything essential to the style itself.

At the time when Carrère & Hastings began to practice, American domestic architecture was very much in need of the qualities of distinction and refinement. The average rich business man



MURRY GUGGENHEIM GARDEN.

Elberon, N. J.



Royal Bank of Canada (1906.)  
Toronto, Canada.

of that day, who built a country house, took his choice between an overgrown cottage and second-rate palace, neither of which was really what he wanted and needed. He wanted and needed something better than a swollen cottage, because, for the benefit of his taste and the satisfaction of his imagination, he ought to live in a house designed and planned in relation to some admirable and well-developed historical style. But, on the other hand, to jump from a big cottage into a palatial villa was merely to substitute inappropriate vulgarity for a species of sprawling informality. The sort of dwelling such men needed was

impersonal, because domestic establishments of a certain scale and complexity must be formed out of many elements, put together with propriety, technical knowledge and architectural effect. Yet it must not be planned on too grand a scale, because in that case it falsifies the lives of its inhabitants. Carrère & Hastings have, throughout their career, held with particular success a proper balance



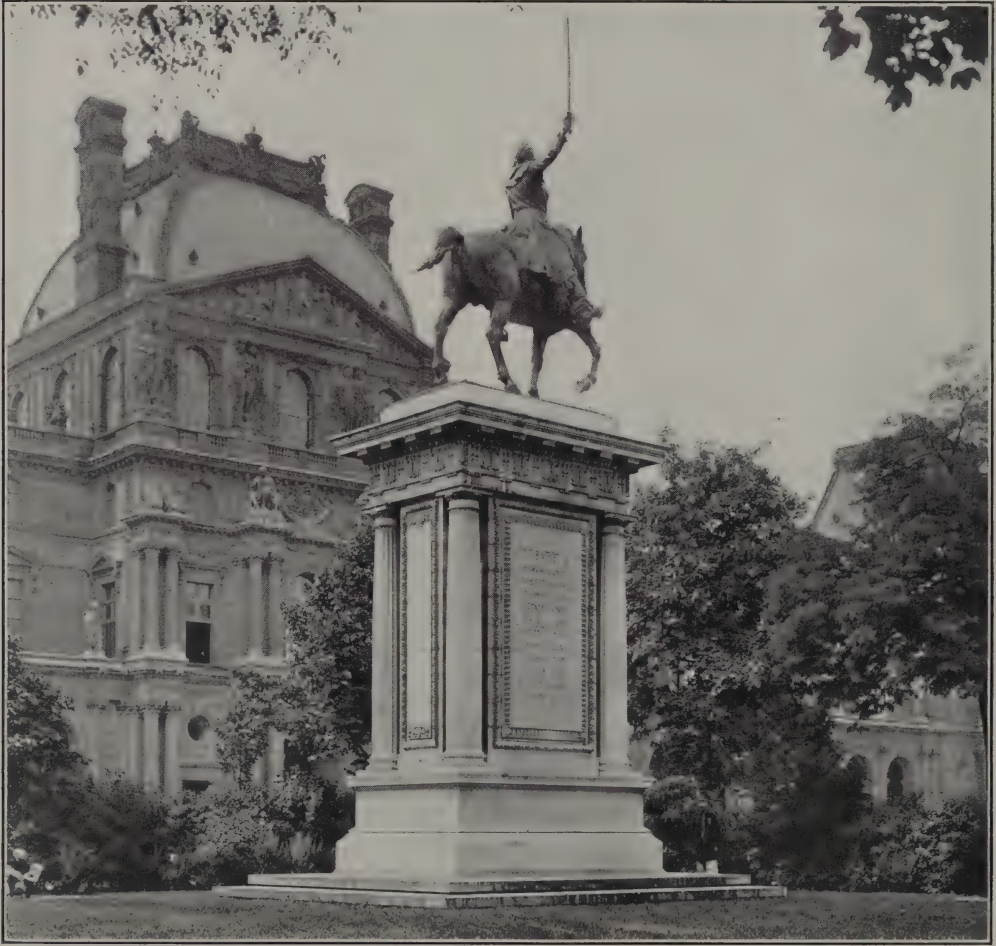
Residence of Dr. E. K. Dunham (1898).  
35 East 68th St., New York City.



between the two dangerous extremes. They have designed and planned for their clients houses that have distinction and style, without being pretentious or grandiose; and they have been able to achieve their conspicuous success at least partly because they have remained loyal to the spirit of the domestic archi-

respect they have made a unique contribution to the wholesome development of American domestic architecture.

These houses constitute a peculiarly successful application to American conditions of the whole group of technical values resident in the eighteenth century French country dwellings. In the first



LAFAYETTE MONUMENT (1899).

Place du Carroussel, Paris.

itecture of the eighteenth century of France. In our opinion, the series of country dwellings which they have built during the past twenty-five, and particularly during the past fifteen years, constitute their most conspicuous success and give them a special standing among their professional associates. In this

place, the buildings are planned and designed, if not in subordination to a comprehensive, landscape scheme, at least in careful relation thereto; and this in itself was a great step in advance for Carrère & Hastings to take. They were among the first of American architects to insist upon the essential import-



HOUSE OF MR. THOMAS HASTINGS—ALTERATION (1908).

Port Washington, L. I.





RESIDENCE OF HON. ELIHU ROOT (1896).

Southampton, L. I.

ONE OF THE GROUP OF HOUSES FOR GEO. W. VANDERBILT, ESQ. (1900).  
Clifton, S. I.



GROUP OF HOUSES FOR GEORGE W. VANDERBILT, ESQ. (1900).

Clifton, S. I.



ance of a landscape layout, harmonizing with the plan and design of the house; and the most superficial examination of the illustration of their country places will disclose a certain unity of archi-

part. Indeed, if one were to make any criticism at all, one would say that perhaps they belong too much to the house. They are out-of-door rooms, in which the occupant does not get a suffi-



RESIDENCE OF CHAS. N. SENFF, ESQ. (1900).

41st St. and Madison Ave., New York City.

tectural conception pervading the whole scheme. Their gardens never appear to be as, in the case of so many American country places, an irrelevance or an after-thought. They belong to the house or to the layout of which the house is a

cient sense of being out-of-doors, and which have the air too much of an open-air *salon*.

In this respect, however, Carrère & Hastings have merely been faithful to the method and spirit of their models.

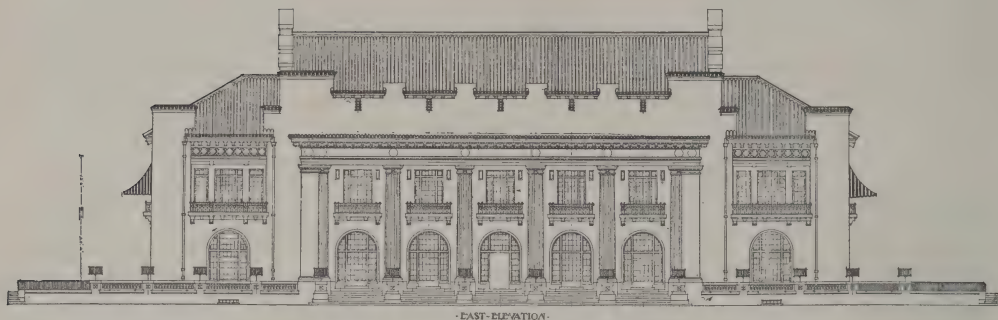


"WHITE HALL," RESIDENCE OF HENRY M. FLAGLER, ESQ.



"WHITE HALL," RESIDENCE OF HENRY M. FLAGLER, ESQ. (1901).  
Palm Beach, Fla.





"WHITE HALL," RESIDENCE OF HENRY M. FLAGLER, ESQ.—FRONT ELEVATION.

The French eighteenth century garden was a place for polite conversation and for social intercourse, rather than a place in which to enjoy nature; and it was inevitable that in planning such an apartment purely natural effects should be kept in the background. But this criticism should not be pushed too far. The smaller French garden, laid out in intimate relation to the house, is not only a great convenience, but is an enor-

mous help to a host in entertaining his guests. It may have a tendency to over-artificiality; but such a tendency is quite compatible with most charming effects and results. And in this, as in other respects, Carrère & Hastings have been faithful to their models. Their places have a kind of charm, as well as a kind of convenience, for which one seeks vainly in more "natural" gardens—a charm which is the result not merely



"WHITE HALL," RESIDENCE OF HENRY M. FLAGLER, ESQ.—INNER COURT.  
Palm Beach, Fla.



PAN-AMERICAN EXPOSITION (1901)—ENTRANCE PYLONS.

Buffalo, N. Y.





PAN-AMERICAN EXPOSITION—BLOCK PLAN.



PAN-AMERICAN EXPOSITION—BIRD'S-EYE VIEW.



of taste in the arrangement of details, but which depends largely upon its practical convenience and on the artificial intimacy between the house and grounds.

In the praise of the best of their houses, one can scarcely be too enthusiastic. From our American point of view, the least natural aspect of their

mestic habits of behavior. Houses such as these should, of necessity, be an instruction in good form to their inhabitants. The peculiar merits of the eighteenth century French house are reproduced with spirit and with effect, while, at the same time, there is never a suggestion of monotony or of literal copying. Both plans and designs ex-



THE PAN-AMERICAN EXPOSITION—THE COURT OF HONOR LOOKING TOWARDS THE ELECTRIC TOWER.

Electric Tower—John Galen Howard, Architect.  
Buildings on Sides by various architects.  
Setting and Detail by Carrère & Hastings.

country houses is their exquisite good form. They have succeeded in rendering admirably the mixture of dignity, distinction, courtesy and gayety characteristic of the better French eighteenth century house and manners; and for this they deserve the gratitude of everyone who recognizes the profound similitude between domestic architecture and do-

hibit the utmost variety in details, as well as in essentials. It is evident that the architects have obtained a thorough mastery of their vehicle, and can adapt without any awkwardness their favorite forms to the needs of a particular location or a particular client. Superficially, for instance, there are profound differences between the Gambrill house in



The Entrance Pylons Illuminated.



The Temple of Music at Night.

Buffalo, N. Y.

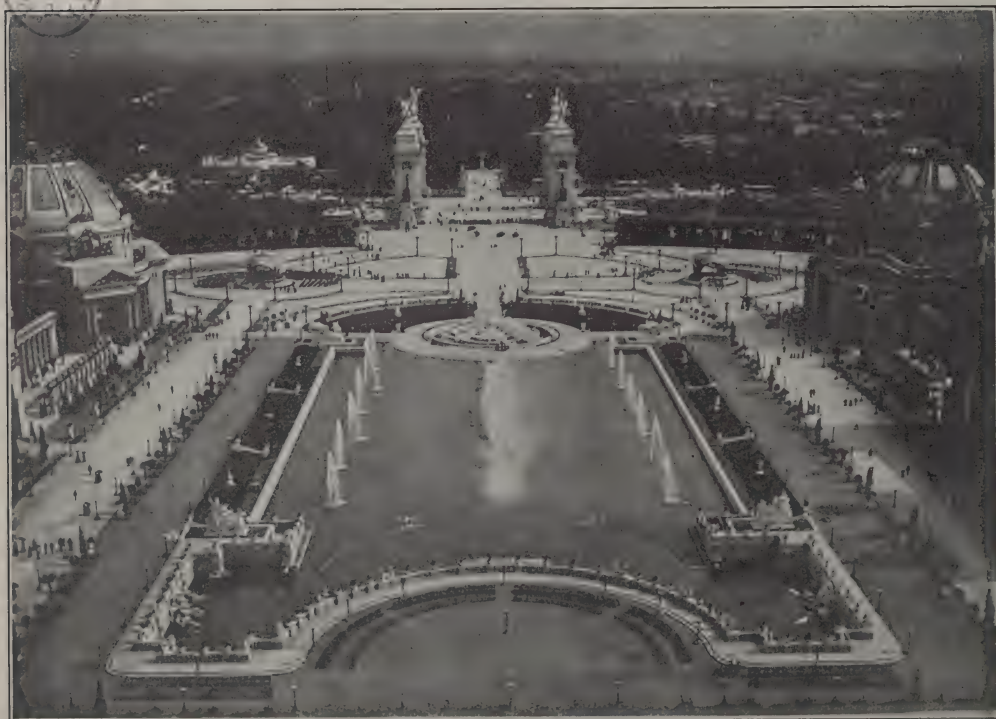
THE PAN-AMERICAN EXPOSITION.

The Fountain: Carrère & Hastings, Architects. Temple of Music: Esenwein & Johnson, Architects.





Detail of Canal and Entrance Pylons.



The Court of Honor Looking Toward the Entrance.  
THE PAN-AMERICAN EXPOSITION, BUFFALO, N. Y.

Buildings on Court of Honor by various architects.



CITY RESIDENCE OF JOHN M. CARRÈRE, ESQ.—DINING ROOM.



CITY RESIDENCE OF JOHN M. CARRÈRE, ESQ. (1902).—MUSIC ROOM.  
101 East 65th St., New York City



Newport, the Blair house in New Jersey, and the flat-roofed Goodyear house in Buffalo; and these differences can all be traced to the varying location and character of the different buildings. The situation of the Gambrill house, on a comparatively small piece of ground, in a highly fashionable watering place, de-

manded a treatment that should be festive, that carefully shut out the grounds of the neighboring houses, and that was adapted to open-air entertaining. We doubt whether there is another house in the country which is better planned and designed to meet the needs of its inhabitants, and which has at once more



CITY RESIDENCE OF JOHN M. CARRÈRE, ESQ.—ENTRANCE HALL.  
101 East 65th St., New York City.



Blair Building (1902).  
Broad St., New York City.

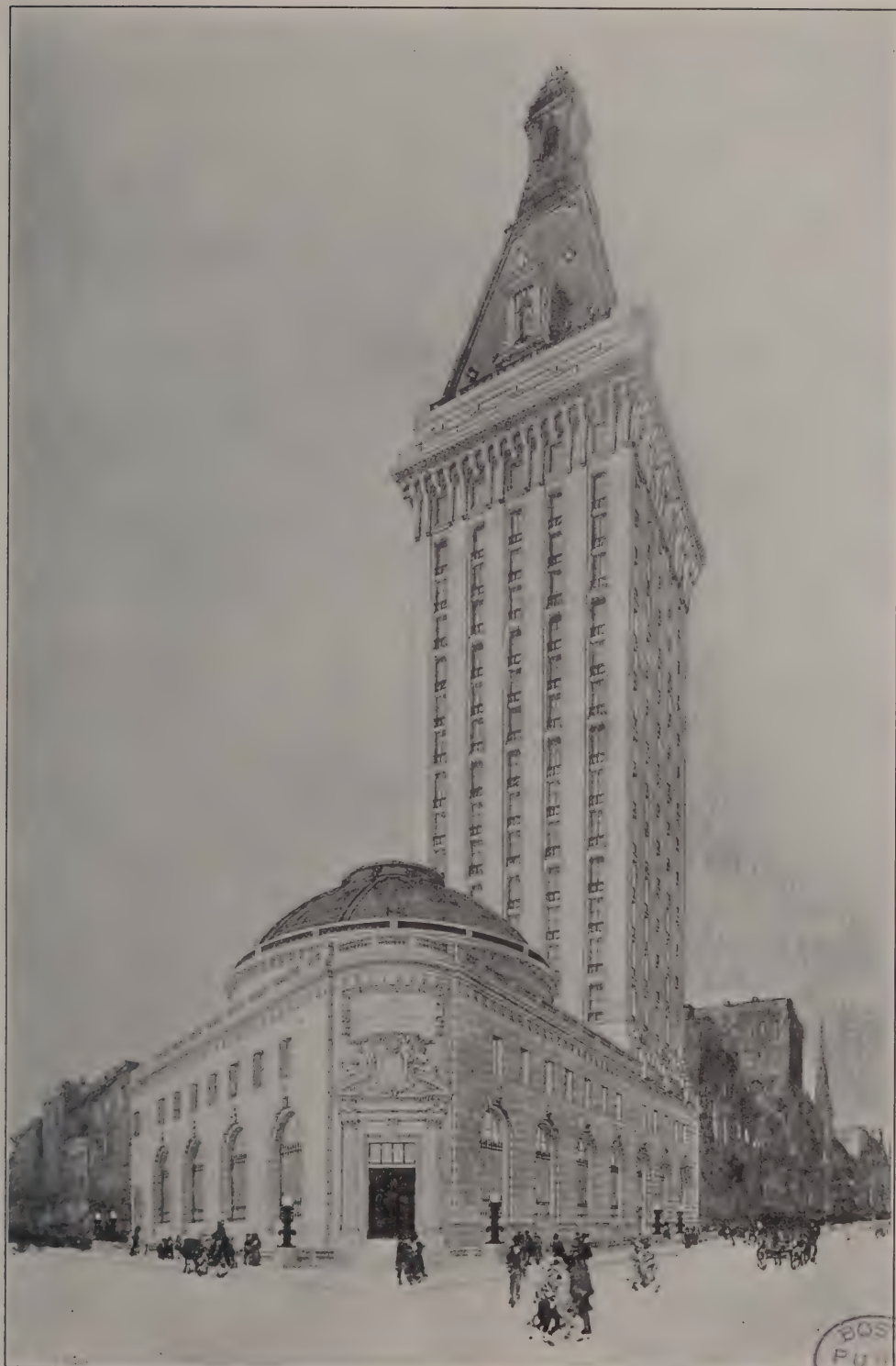
style and more charm. The Blair house, on the other hand, occupied a conspicuous location in the midst of a large country estate; and its design and plan are determined by the necessity of commanding the view, of dominating and holding its own in the landscape, and affording its owners the opportunity of enjoying the more substantial pleasures of country life. The Goodyear house, finally, was situated in the immediate outskirts of a large city, where privacy was impossible and conspicuousness ostentatious; and the result is a house designed to be seen from a neighboring street, and bearing the scrutiny with a grave and graceful dignity. But these three houses, different, as they are, in plan, design and character, are all of them French of the best period, and arouse grateful, time-honored and worthy French associations.

The example of these three houses, and their clever adaptation to the different needs of their respective locations and owners, bring us to another essential characteristic of the work of Carrère & Hastings. Interested, as they are, in one particular sub-style, they are never merely seeking to reproduce an effect associated with certain historical buildings. They approach every new design from a new point of view, determined by the needs and conditions special to that job. They begin, that is, with a plan in which all the practical requirements are met, and which, in the case of a country house, is articulated with the layout of the grounds; and it is out of this plan that the design is put together. Their houses, consequently, with all their uniform propriety and distinction of appearance, are designed from within out; and in this respect they represent a better technical ideal and practice than the great majority of their predecessors. No architect should be obliged to ask a business man to subordinate the economic efficiency and productiveness of his building to an exterior effect. Neither should he be obliged to ask the owner of a private house to sacrifice some considerable convenience or practical need to the exigencies of mere appearance. As long





BLAIR BUILDING—DETAILS OF UPPER AND LOWER PARTS OF BROAD STREET FAÇADE.  
Broad St., New York City.



COMPETITIVE DESIGN FOR CLEVELAND TRUST CO. (1903).

Cleveland, O.





RESIDENCE OF FRANK H. GOODYEAR, ESQ.

as the architect puts his clients in such a situation he can rarely win their entire confidence. It is his duty to accept loyally, in the interests of his client, all practical conditions and needs of any real importance, and then to build his

design on these foundations. But, of course, he is no less responsible for making his design a success exclusively from the point of view of appearance. If his design turns out to be a loose and ill-combined collection of

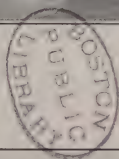


RESIDENCE OF FRANK H. GOODYEAR, ESQ. (1903).

Buffalo, N. Y.

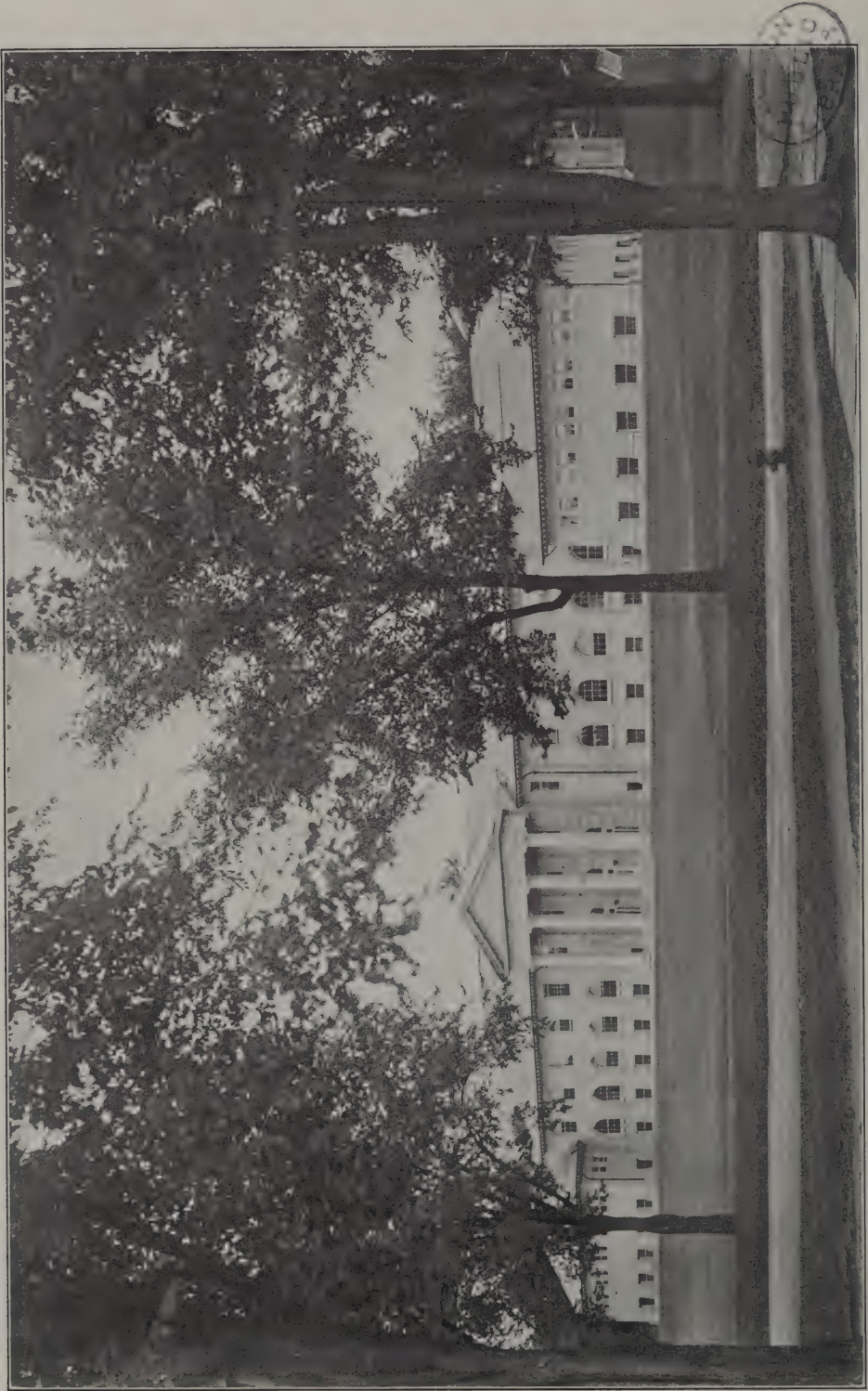


RESIDENCE OF FRANK H. GOODYEAR, ESQ. (1903)—HALL.  
Buffalo, N. Y.



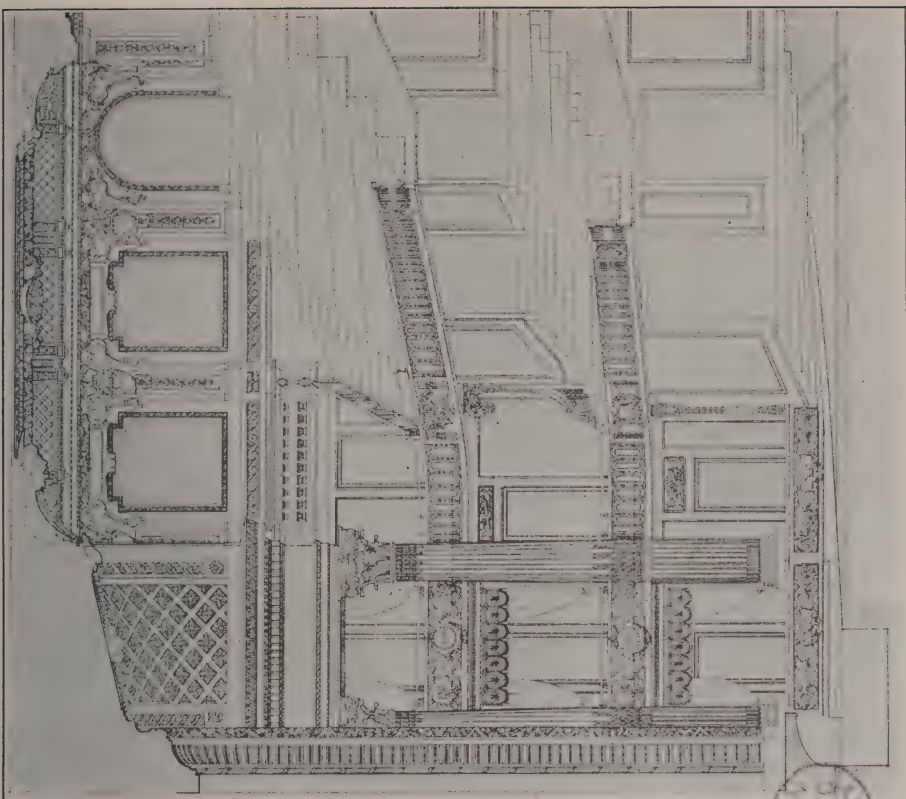
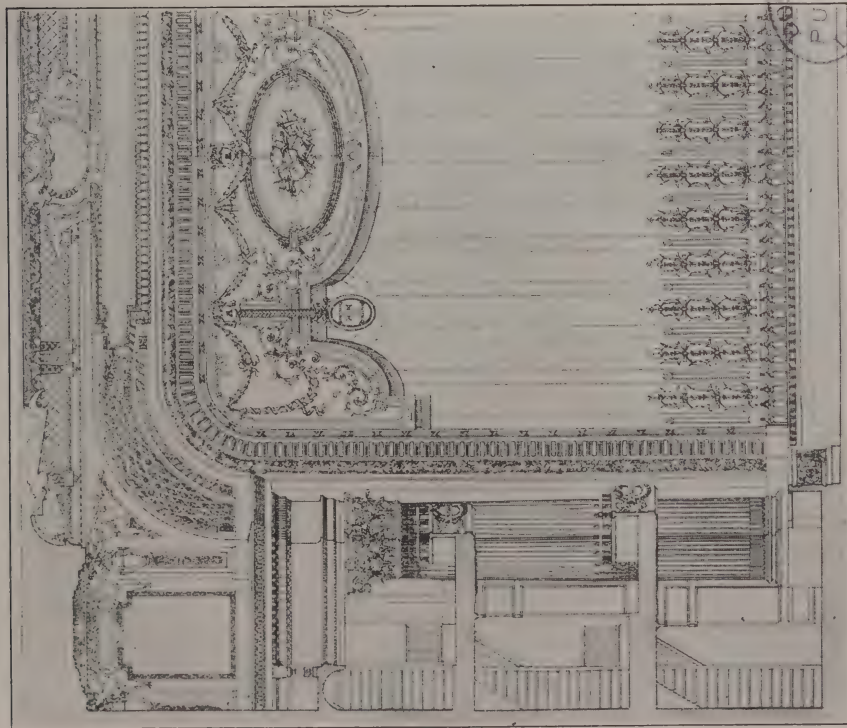
HOUSE OF S. W. GLAZIER, ESQ. (1903).  
Elberon, N. J.





GOLDWIN SMITH HALL, CORNELL UNIVERSITY (1903).

Ithaca, New York.



THE EMPIRE THEATRE-AUDITORIUM (1903).

New York City.



parts, or if, although consistent enough, it is wholly devoid of distinction and charm, the architect has no right to plead the exigencies of his plan. He must, somehow, imagine a beautiful exterior on the basis of a well-devised layout, and if he fails he cannot escape responsibility. Carrère & Hastings have

their designs on the foundation of a convenient, complete and consistent plan is, perhaps, the characteristic for which they deserve most praise. That no really permanent improvement can take place in American architecture except on the basis of the ingenious and sufficient adaptation of the buildings to their func-



RESIDENCE OF HON. ELIHU ROOT (1903).

75th St. and Park Ave., New York City.

been unprecedentedly successful in meeting the practical needs of their clients without any essential sacrifice of their own interest in designing not only good-looking houses, but houses embodying a definite historical style.

The importance which Carrère & Hastings have always attached to building up

tions is a commonplace; but it is a commonplace which has frequently been ignored in American architectural history. During the period of hopeless decadence American builders lost the tradition of good planning, no less than the tradition of good designing. The Colonial houses, for instance, embodied usually



HOUSE OF MR. WM. K. VANDERBILT, JR. (1903).

Great Neck, L. I.





Greenwich, Conn.

ELY SCHOOL (1905).



Westbury, L. I. RESIDENCE OF HERMAN B. DURYEA, ESQ.—GARDEN. (1903).



Elberon, N. J.

RESIDENCE OF DANIEL GUGGENHEIM (1890).



RESIDENCE OF HERMAN B. DURYEA, ESQ. (1903).

Westbury, L. I.



a simple, convenient and architecturally promising plan—one which served excellently the practical needs of the inhabitants of the houses, that articulated very well with the approach and the layout of the grounds, and which afforded an opportunity for designing well-proportioned rooms. But later every corruption of the methods of designing was accompanied by a corruption of the plan. The colonnades of the period of the Greek revival deprived the houses

only respect in which they showed any glimpse of ingenuity was in the matter of certain improved mechanical arrangements in respect to heating and plumbing. Public buildings and those devoted to business were also just as inconvenient as they were ugly, and the worst aspect of it was that the average American was more attached to the familiar ineptitudes of these plans than he was to the lifeless mixture of corrupt historical forms which passed for architecture.



Buffalo, N. Y.

DETAIL OF McKINLEY MONUMENT.

of the light necessary not merely to convenience, but to any beauty of interior effect. At the worst period the plans of the typical American city and country house were, if possible, uglier and more uncouth than their designs. The rooms, whether large or small, were ill-shaped, badly connected one with another, and cut to pieces by huge openings and various architectural excrescences. The interior was deprived of light by an excess of encircling verandahs, and the

When the revival came it was natural that many of the earlier revivalists should have attached more importance to the designing of interesting-looking buildings than to the devising of really adequate plans. In the first place, improvement in design was the line of the least resistance because, as we have said, the average American was less likely to insist upon the familiar ugliness of the customary exteriors than he was upon the far more intimate solecisms

which surrounded his fireplace. Then the architects themselves were obliged to look upon their own buildings, but they were not obliged to live or to transact business therein; and in the first blush

essarily brought with it certain immediate improvements in plan. So far as country houses were concerned the architect immediately declared war upon the old piazzas which deprived the best



Buffalo, N. Y.

McKINLEY MONUMENT (1903).

of reformatory zeal they inevitably tended to concentrate their energies and talents upon the attempt to make their buildings look more interesting. Of course the improvement in design nec-

essarily brought with it certain immediate improvements in plan. They also succeeded from the start in simplifying the plan, enlarging and enlightening the most important rooms,





ALTERATION TO HOUSE OF WM. BUTLER DUNCAN, ESQ. (1903).

Port Washington, L. I.



Elberon, N. J.

RESIDENCE OF MURRY GUGGENHEIM, ESQ. (1903).  
(Gold Medal, N. Y. Chapter A. I. A.)



and of course in abolishing the most serious of the interior architectural solecisms. But after making all allowances for the influence of these earlier architects in doing away with some of the worst faults in the traditional American

ed to sacrifice the plan to the design, whenever such a sacrifice was necessary, in order to make the building look more interesting.

That this insistent preoccupation with the appearance of their buildings



FIRST NATIONAL BANK (1903).

Paterson, N. J.

methods of planning both city and country houses, it remains true that their dominant interests were æsthetic. They improved the plan wherever such improvements were necessary to the improvement of the design, but they tend-

served an excellent purpose in the history of American architectural improvement not only cannot be denied; but must be emphatically proclaimed. In order to revive popular interest in purity of architectural style and in bal-

ance of architectural composition, it was absolutely necessary that the attention of educated and well-to-do Americans should be aroused by really entertaining and vigorous appeals to their historical and æsthetic sensibilities. But it is equally obvious that in the long run the neglect of intelligent and conscientious planning would not only hurt the American architectural revival in the

the making of a building, it was obvious that his first duty was that of making the building serve in the most economical manner possible the function, or the combination of functions, for which it was constructed. Otherwise he would inevitably drift into the position of a man who applied an æsthetic cosmetic to the face of a building whose plan and structure were devised by an engi-



FIRST NATIONAL BANK.

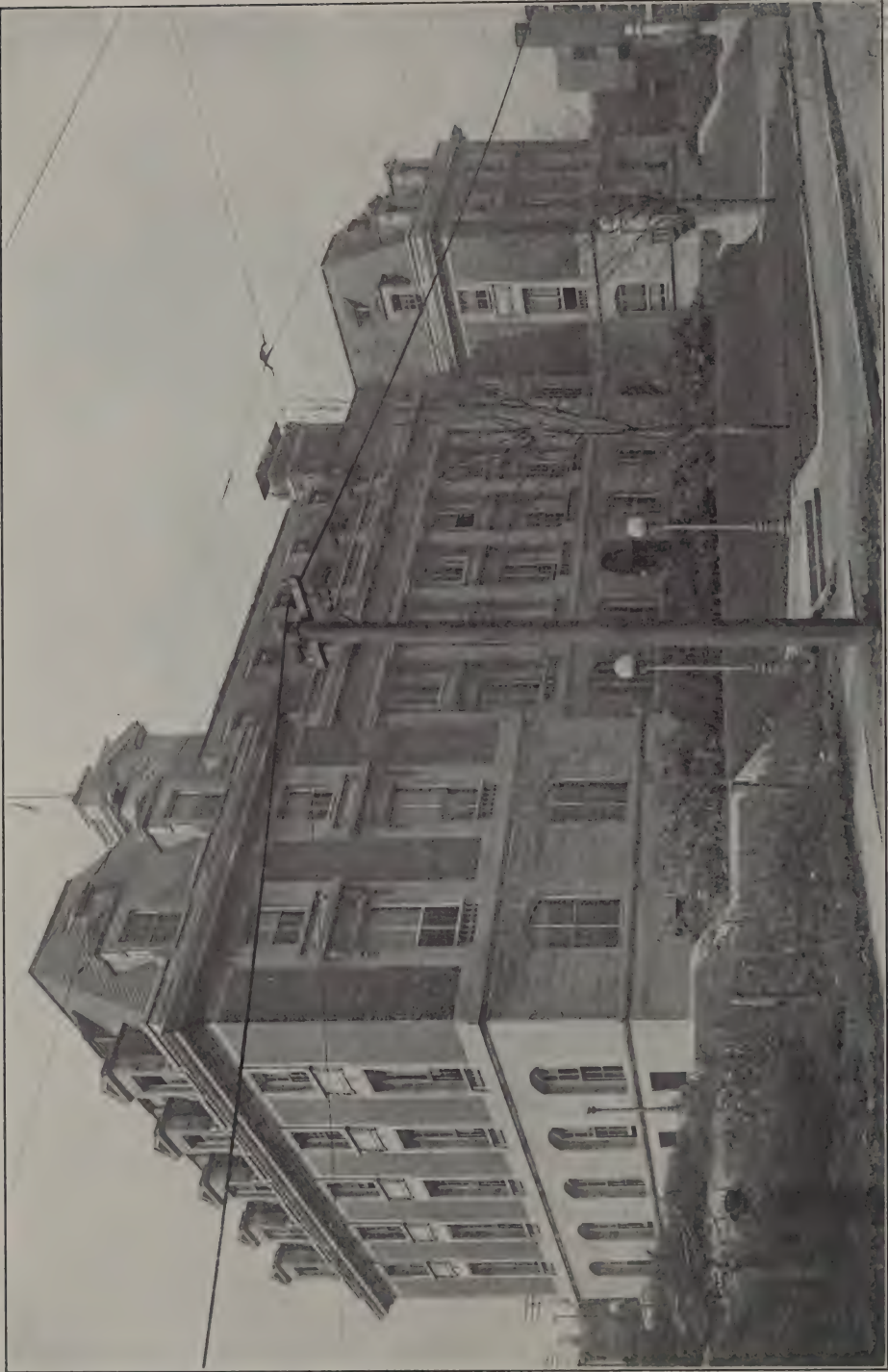
Paterson, N. J.

minds of discriminating people, but would be corrupting in its general effect. Inconvenient and wasteful plans are not merely very annoying to the inhabitants of a building, but they have a tendency to result in pretentious and inappropriate architectural effects. If the architect was to become, as he should be, the dictator, who organized and combined the work of the various mechanical and technical experts, who contributed to

neer. The plan of a building is inevitably its dominant aspect, and a practical people like the Americans will not put up with wasteful and inconvenient lay-outs. The only way in which an architect can vindicate his claim to supreme control over a building operation is through his ability to devise a simple and adequate plan.

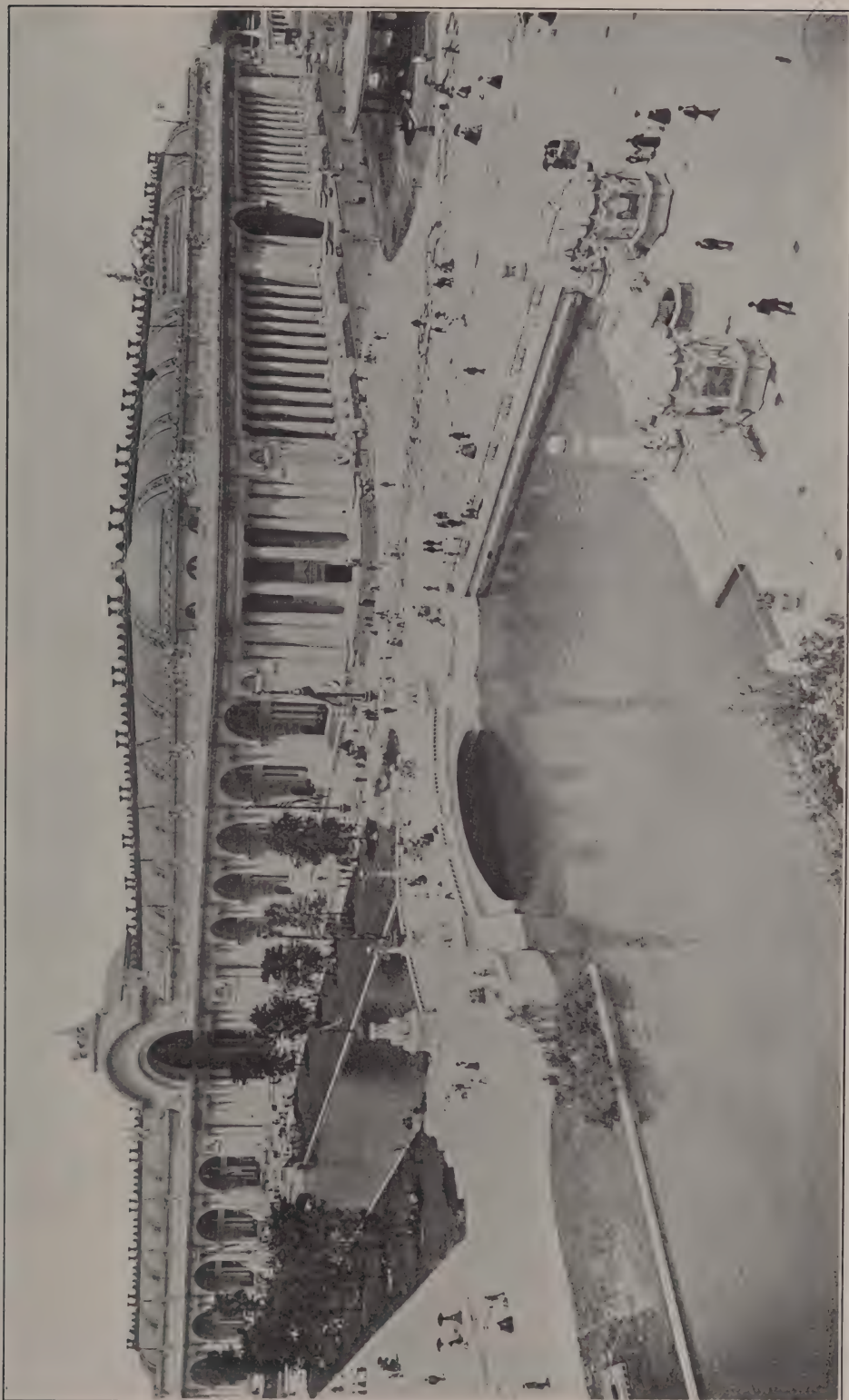
As a matter of fact that is precisely what the modern American architect has





RICHMOND BOROUGH HALL (1903).

St. George, Staten Island.



ST. LOUIS EXPOSITION (1904)—AGRICULTURAL BUILDING.





COUNTRY RESIDENCE OF JOHN M. CARRÈRE, ESQ.—FORMAL GARDEN.



COUNTRY RESIDENCE OF JOHN M. CARRÈRE, ESQ. (1905).  
White Plains, New York City.



FERRY TERMINAL AT ST. GEORGE, STATEN ISLAND (1904).





MANHATTAN BRIDGE NO. 3 (1905).  
(Now Nearing Completion.)

New York City.

been doing. The first and most important result of the school training which the present generation of American architects has been receiving is the restoration of the plan to its proper position in a general architectural method; and the success which the younger men trained in the great French school have been obtaining has been due chiefly to their thorough education in the art of simple and economical planning. Their clients can depend upon them to arrange the lay-out of a building so that its various parts will be grouped in a manner which will economize time and money, and serve admirably the combination of purposes for which the building was erected. And for the American architect this has become an extraordinarily difficult task. The contemporary American types of building, whether residences, hotels, schoolhouses, apartment houses or office buildings, are complicated beyond any other types of building

in the history of the world. They contain a wholly unprecedented amount of machinery; and they must meet a wholly unprecedented variety of practical requirements. In planning them, consequently, the architect is confronted by a problem whose difficulty is equalled by its importance; and if he had not shown himself equal to the task he would inevitably have become merely the subordinate and the servant of the building engineer. That he has retained his pre-eminence in spite of the increasing importance of the purely engineering and practical problems involved by the construction of these buildings is a sufficient indication that he is performing his task efficiently and that he is receiving a training which in a sufficient measure prepares him for it.

Carrère & Hastings deserve peculiar credit for the attitude which they have always assumed in relation to this all-



DETAIL OF MANHATTAN BRIDGE NO. 3.

New York City.

important matter. Their work has always been distinguished quite as much by conscientious and ingenious planning as by its more peculiarly æsthetic merits; and they were in this as in other respects intelligent and consistent innovators. The importance which they have always attached to their plans was doubtless the result partly of the unusually prolonged and thorough school

of American architectural practice looked in another direction.

They sum up in their work better than any other single firm the really progressive and formative movement of modern American architecture. They have overlooked no idea of essential importance which would tend to give their work increasing propriety, dignity and effect. There have been and are



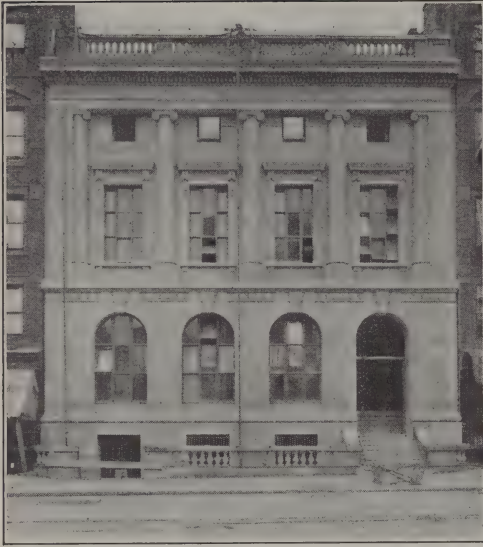
FLAGLER MAUSOLEUM (1906).

St. Augustine, Fla.

training enjoyed by the members of the firm; but it was also partly the result of their practical good sense and their grasp of the realities of architectural design. They realized from the start, and acted on that realization, that the modern American architect must vindicate his pre-eminence by the adequacy of his plans; and they acted on the knowledge at a time when the tendency

other architects whose plans have been just as worthy of careful consideration, and which have been the result of just as conscientious and ingenious study as those of Carrère & Hastings. There have been and are other architects who have designed their buildings with as fine a sense of the proprieties of form as is exhibited in the better buildings of Carrère & Hastings. But there is no





New York Public Library, Branch No. 8.  
192 Amsterdam Ave., New York City.  
Carnegie Circulating Branch.

other American architect or firm of architects who have united so much excellence in their plans with so much beauty and distinction of design.

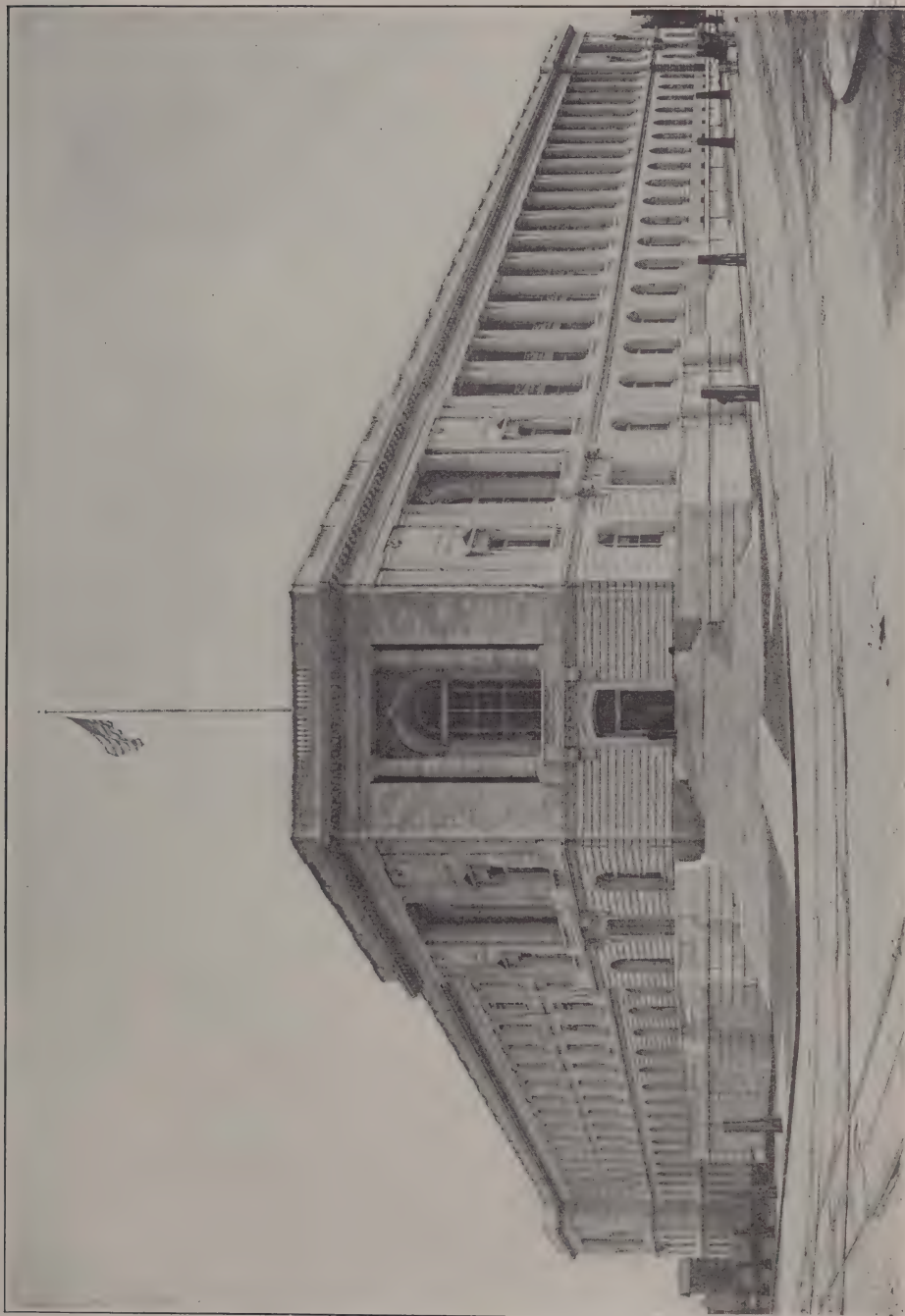
In the case of buildings of the highest architectural excellence a convenient and economical plan issues with apparent inevitability in an appropriate and effective design. The two different aspects of the complete building are at bottom supplementary and are scarcely distinguishable whenever the architect manages to achieve a really brilliant success. But inevitable as the relation frequently appears to be in many successful buildings, its achievement has always been the result of patient and painstaking work, ingenuity, and an ability to discriminate between the essential and unessential elements both of plan and design. In the case of every complicated building the varying practical requirements will conflict both with one another and with some desirable architectural effect, and the completed result almost always betrays to the trained eye the series of sacrifices and compromises whereby the successful building was purchased. The architect exhibits his underlying interest in nothing so much as in his choice of what

he will sacrifice in the event of some important conflict. The tendency of an imaginative man is usually to make his building beautiful and effective at any cost. On the other hand, many conscientious and excellent architects succeed in elaborating plans which are marvels of simplicity and convenience, but seem unable to give those plans an architectural body expressive either of grace or energy.

Evidences of the inevitable conflicts between plan and design can be detected in the work of Carrère & Hastings; but their peculiar merit consists precisely in the fact that they have held an admirable balance among the conflicting demands made upon them by their work. They have designed buildings which at once are beautiful, effective and convenient. They have accepted and developed the idea that American architecture should accept the spirit and tradition of the Renaissance architectural forms, while at the same time they have sought to make their buildings thoroughly real and modern in the sense of making them thoroughly practical. One can detect in the policy of the firm towards all the problems which confront the modern



New York Public Library, Branch No. 15.  
235 East 25th Street, New York City.



OFFICE BUILDING OF THE HOUSE OF REPRESENTATIVES (1906).

Washington, D. C.

Carrère & Hastings, Consulting Architects.  
Elliott Woods, Superintendent U. S. Capitol and Grounds.

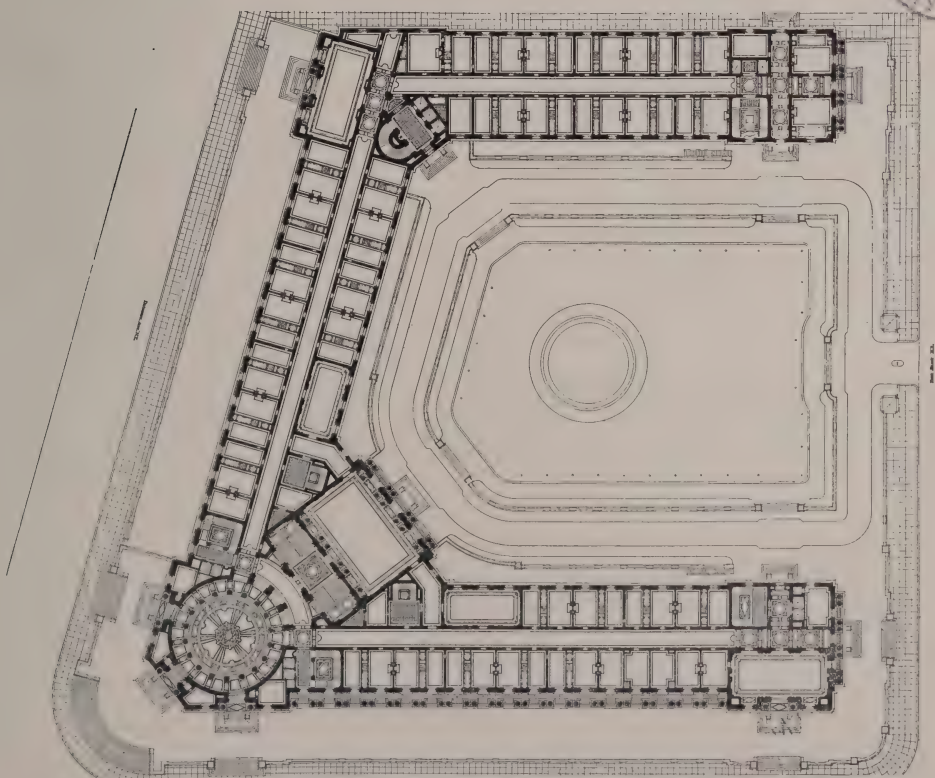




OFFICE BUILDING, HOUSE OF REPRESENTATIVES (1906).  
Washington, D. C.  
Carrère & Hastings, Consulting Architects.  
Elliott Woods, Superintendent U. S. Capitol and Grounds.



CAUCUS ROOM.



SENATE OFFICE BUILDING (1906).

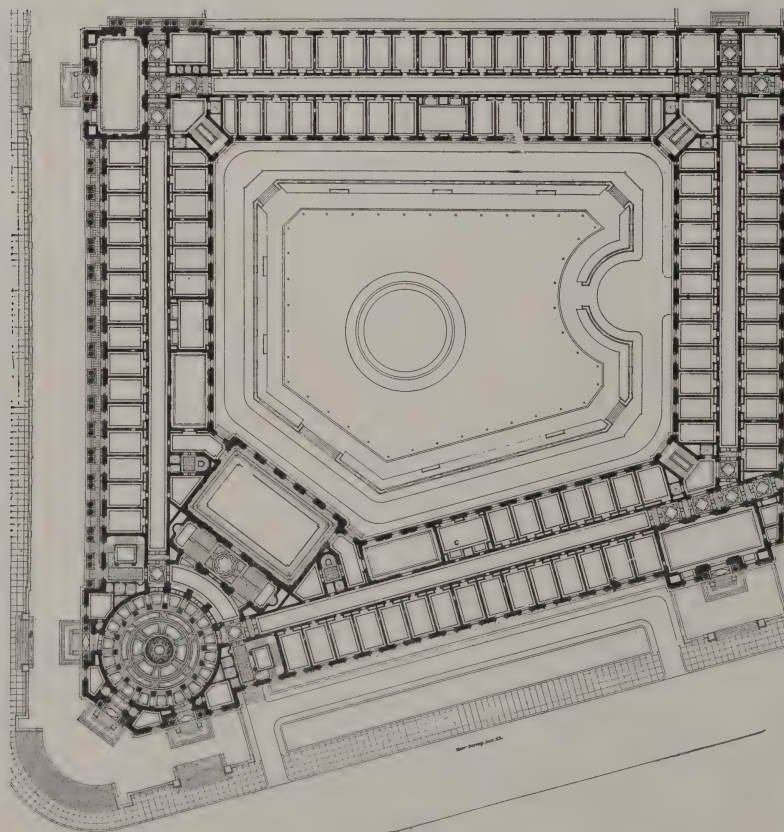
Washington, D. C.

Carrère & Hastings, Consulting Architects.  
Elliott Woods, Superintendent U. S. Capitol and Grounds.





CAUCUS ROOM.



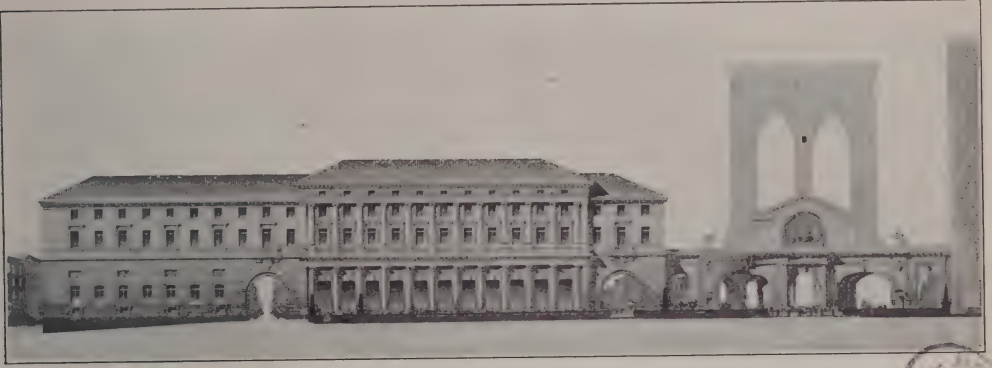
HOUSE OF REPRESENTATIVES OFFICE BUILDING (1906).

Washington, D. C.

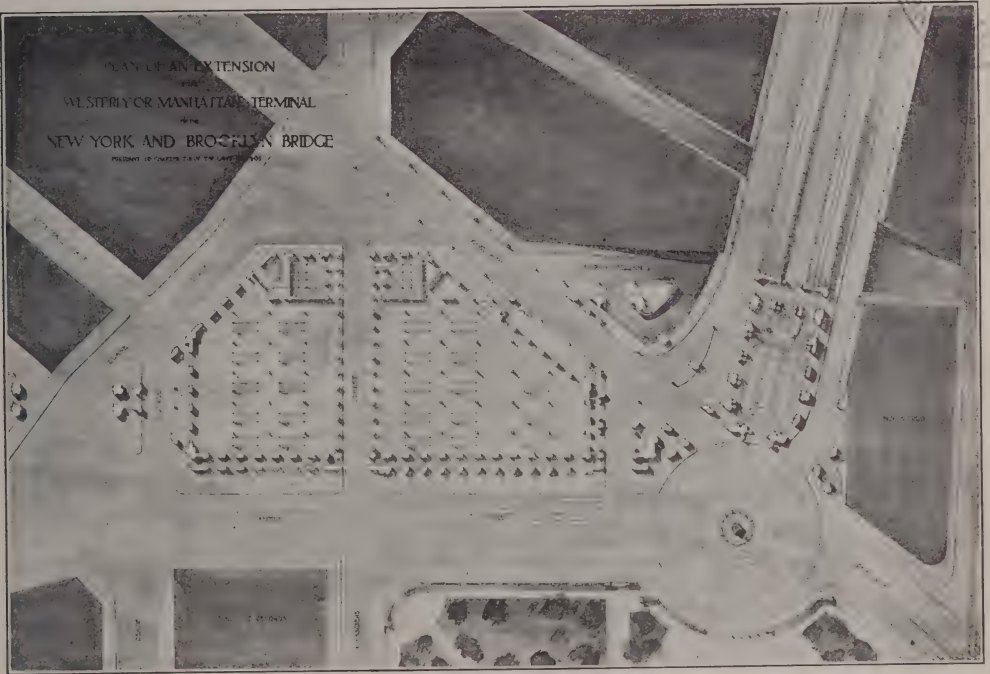
Carrère & Hastings, Consulting Architects.  
 Elliott Woods, Superintendent U. S. Capitol and Grounds.

American architect the evidence of a clear and well-balanced intelligence, co-operating with a lively imagination; and the result is an illustration of how much may be accomplished by loyal collaboration on the part of two men differing

wholly successful design. When any conflict occurs between the needs of the plan and that of the design, the latter is usually sacrificed; and if a choice must be made, it is assuredly better to sacrifice the design rather than the plan. But



DESIGN FOR BROOKLYN BRIDGE APPROACH AND TERMINAL (1906).



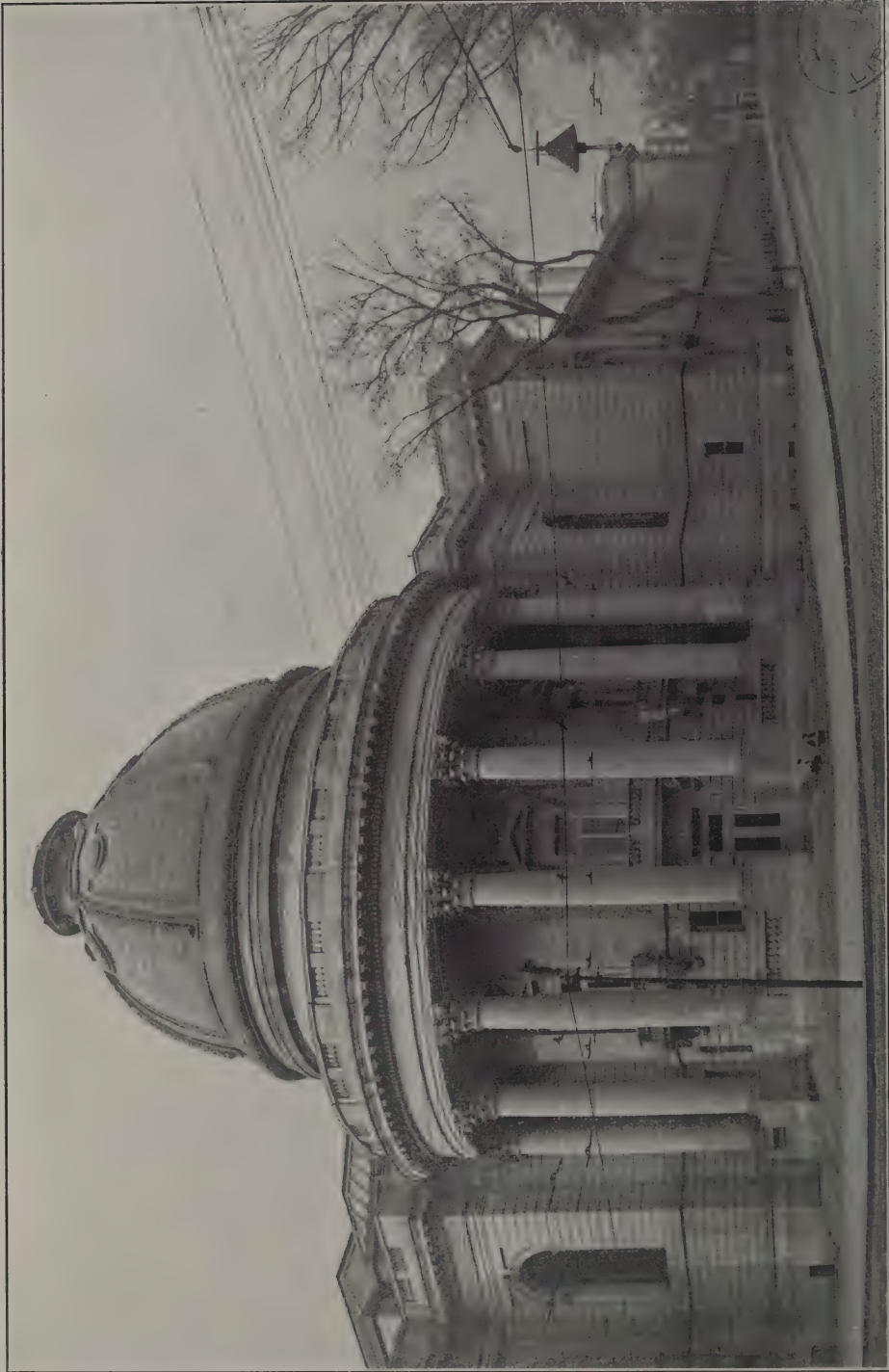
PLAN.

widely from each other in temperament and point of view.

Even the most ardent admirers of Carrère & Hastings could hardly claim that they have always been successful in associating with their successful plans a

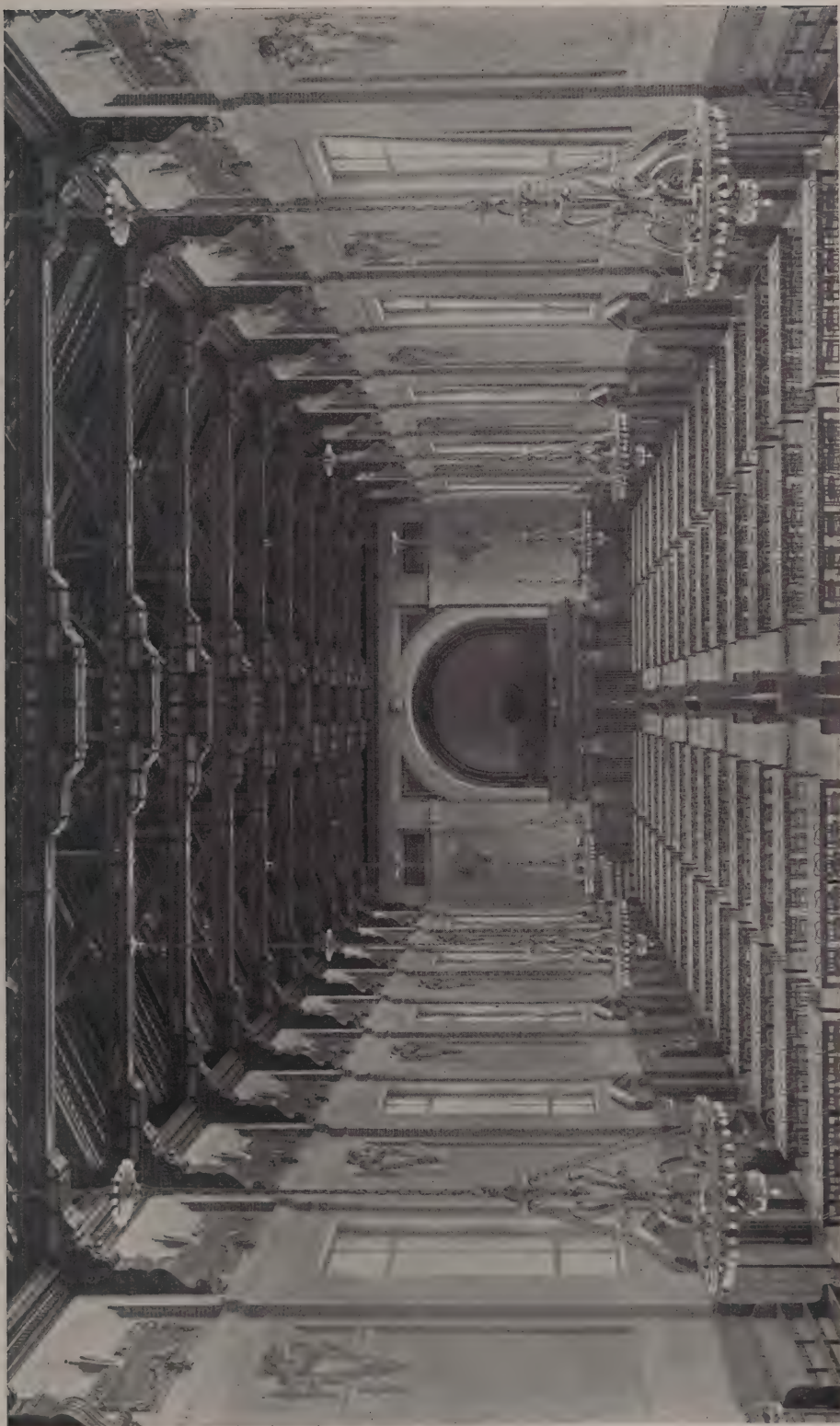
wherever the design is really hurt by such a sacrifice the architect cannot escape a certain responsibility for the injury. It is his business somehow to work out a practical plan which demands no sacrifices from an equally satisfac-





MEMORIAL BUILDINGS, YALE UNIVERSITY (1906).

New Haven, Conn.



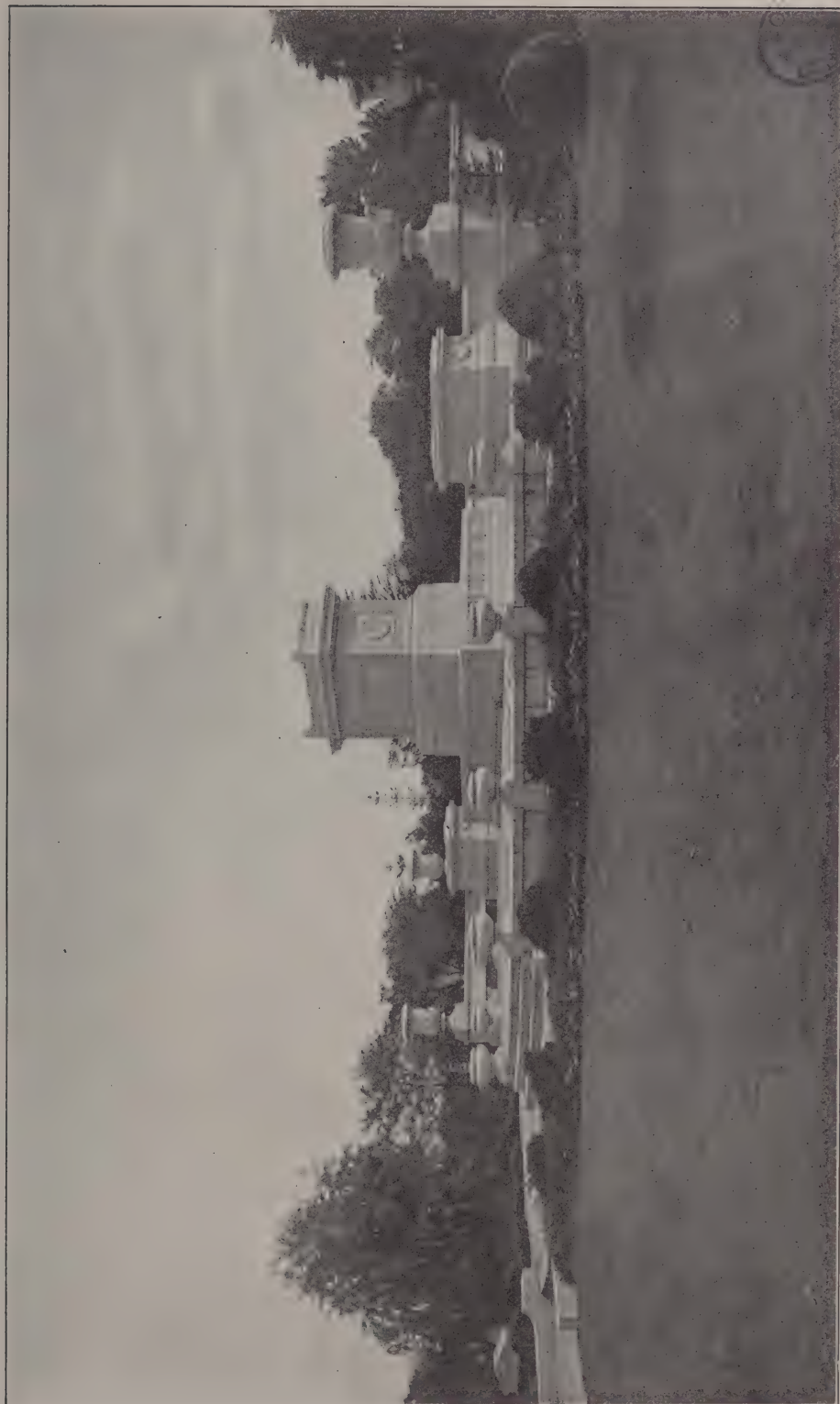
Dining Hall.  
MEMORIAL BUILDINGS, YALE UNIVERSITY (1906).

New Haven, Conn.





RESIDENCES FOR MR. OTTO H. KAHN AND MR. HENRI WERTHEIM.  
Convent, N. J.



THE M. C. D. BORDEN TOMB (1906).

Woodlawn Cemetery, New York City





RESIDENCE OF GEORGE L. RIVES, ESQ (1908).  
69 East 79th Street, New York City.

tory design, and if he does not do this he must accept the responsibility for the failure. In the case of some of Carrère & Hastings' most important buildings



Residence Burrall Hoffman, Esq. (1898).  
59 East 79th St., New York City.

they have been unable to avoid certain sacrifices of this kind. At a certain point, for instance, in the attic of the New Theatre the design simply ends and the

architects have allowed the remainder of this crowning feature to take care of itself. In the case of the new Public Library the spaces of blank wall, relieved only by niches on either side of the arched portals, must assuredly be explained by certain necessities of the plan rather than of the design; and the stilted arches of the entrance hall are simply tantamount to the confession of a difficulty rather than to its solution.

Blemishes such as those illustrated above are peculiarly difficult to avoid in a building like a Public Library, which must be monumental in its effect while at the same time meeting a group of exacting and complicated practical requirements. It must be said, in justice to the designers, that neither of these structures is entirely finished, and it may be that what is at present lacking can materially alter the ultimate effect. But in case the architect does not succeed in avoiding such blemishes he can hardly claim a complete success; and in so far as such sacrifices occur in the buildings of Carrère & Hastings, they must be entered on the debit side of the account—even though it be also admitted that the debt was incurred in a good cause. When, however, allowances have been made for all such deductions the fact remains that among the public buildings erected by the present generation of American architects those of Carrère & Hastings are distinguished both by their beauty and their popularity. They have held their own even in a sphere in which their devotion to conscientious planning might have been supposed to place them most at a disadvantage.

At the present moment Carrère & Hastings occupy a place peculiarly their own in the ranks of the profession. They stand as do no other firm both for a tradition and a promise—both for a fulfilment and a prophecy. Although by no means the first important American architects trained in the school, they have done more than any other firm to introduce into American design the advantages without the limitations of the school training. And one would not dare to assert with any con-





CARNEGIE INSTITUTION OF WASHINGTON—ROTUNDA.  
Washington, D. C.





CARNEGIE INSTITUTION OF WASHINGTON (1909).

Washington, D. C.



fidence whether they have rendered a better service in making admirable use of the better technical methods or in refusing to become nothing more than French architects, practicing in the United States. They were the first prominent American architectural firm to stand consistently and intelligently for the results of French training and the forms of French architecture; but their innovations were always made in a conservative spirit, and with an intelligent understanding of the need in this country not merely of thorough training, but of the guiding influence of a sound tradition.

Their work and their influence has, consequently, been sound and constructive from practically every point of view. The two great needs of American architecture are the establishment all over this country of a vigorous standard of technical achievement, and of a sound convention of architectural form. The necessary technical training must be derived largely from prolonged and serious scholastic work; and even when such schooling takes place in this country its methods must, on the whole, be based on those of the great Parisian Ecole. Hence, for the present, at least, American architecture must necessarily

submit to the influence of French methods and of French forms; and even those people who do not relish the prevailing tendencies of modern French architecture and its American imitations should admit the inevitability of this French influence and its, on the whole, desirable results. If American architects cannot, in the course of time, profit from what is excellent in French training, while emancipating themselves from what is meretricious in the French example, it will be the fault of their own unintelligence and lack of personal and national independence. They certainly have been shown the way. Carrère & Hastings among others, but first among others, have profited from the excellence of French training and have detected the advantages of adapting French forms; but they have done so in a manner which was at once sympathetic, spirited and discriminating. They have understood that American architecture needed not contemporary French fashions, but the time-honored French tradition of style, while, at the same time, they have begun the transformation of French tradition of style to American needs by the special treatment of each architectural problem on its own individual merits.



St. George, Staten Island.

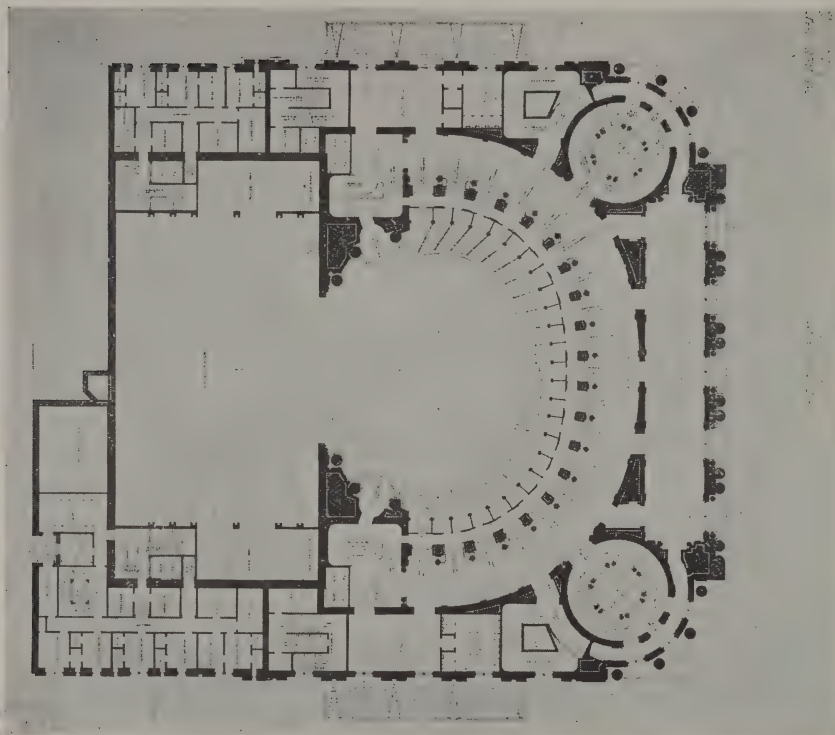
CARNEGIE PUBLIC LIBRARY (1905).

LIBRARY



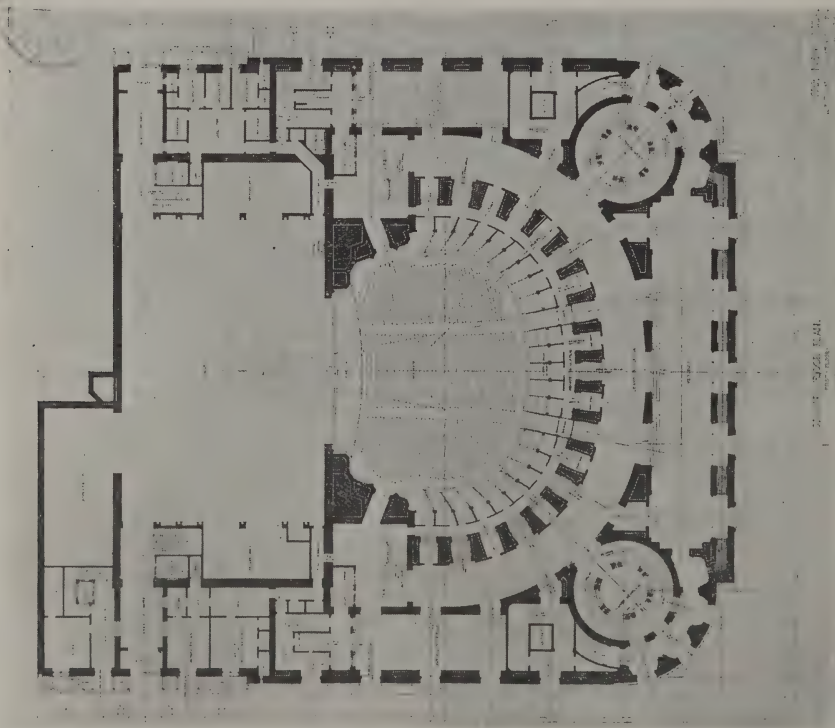
THE NEW THEATRE (1906).  
Central Park West, 62d and 63d Streets, New York City.  
(Photo by A. Patzig.)





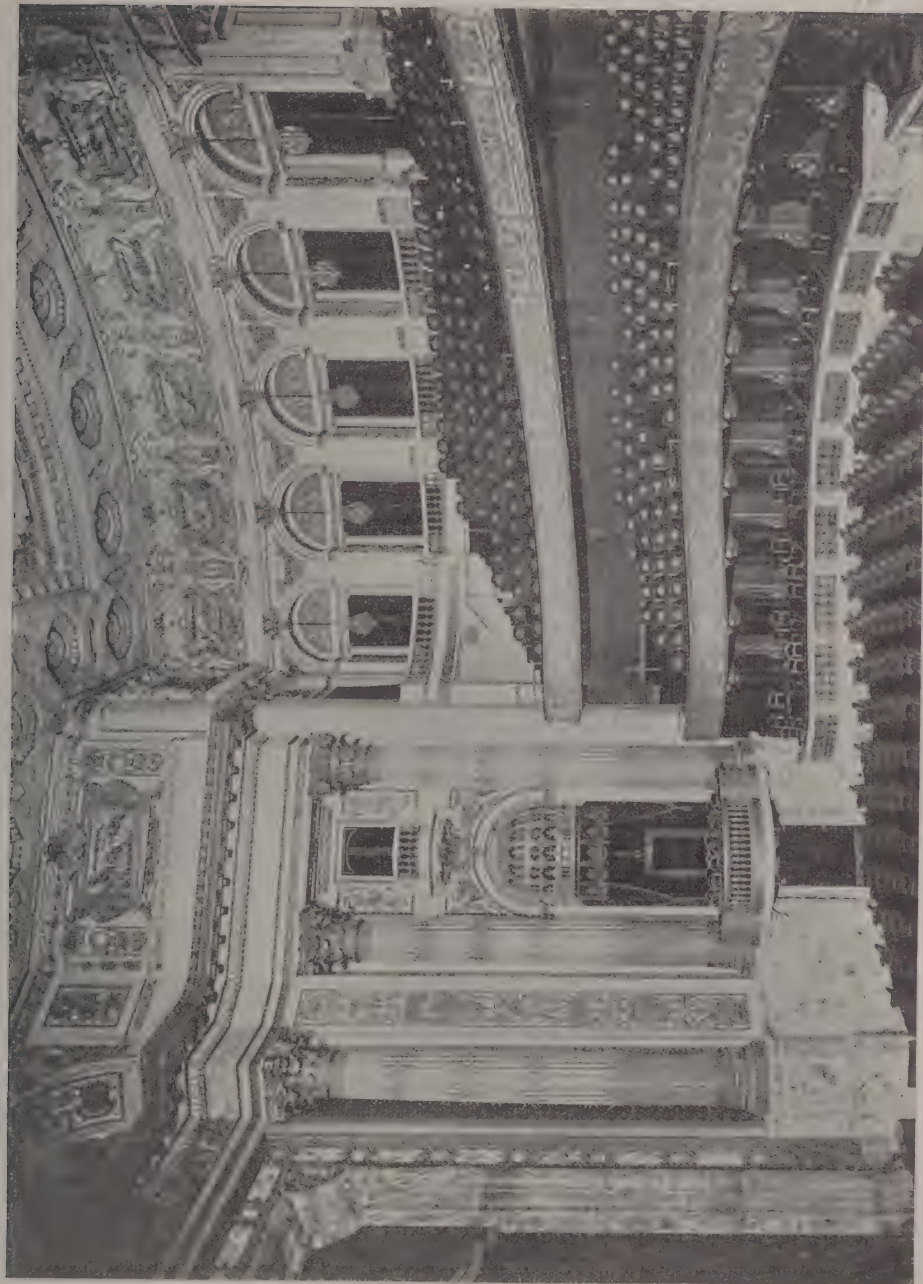
Foyer Floor Plan.

THE NEW THEATRE (1906).



Ground Floor Plan.

New York City.



THE AUDITORIUM OF THE NEW THEATRE.  
(Copyright, 1909, by The New Theatre.)

New York City.





Lobby.

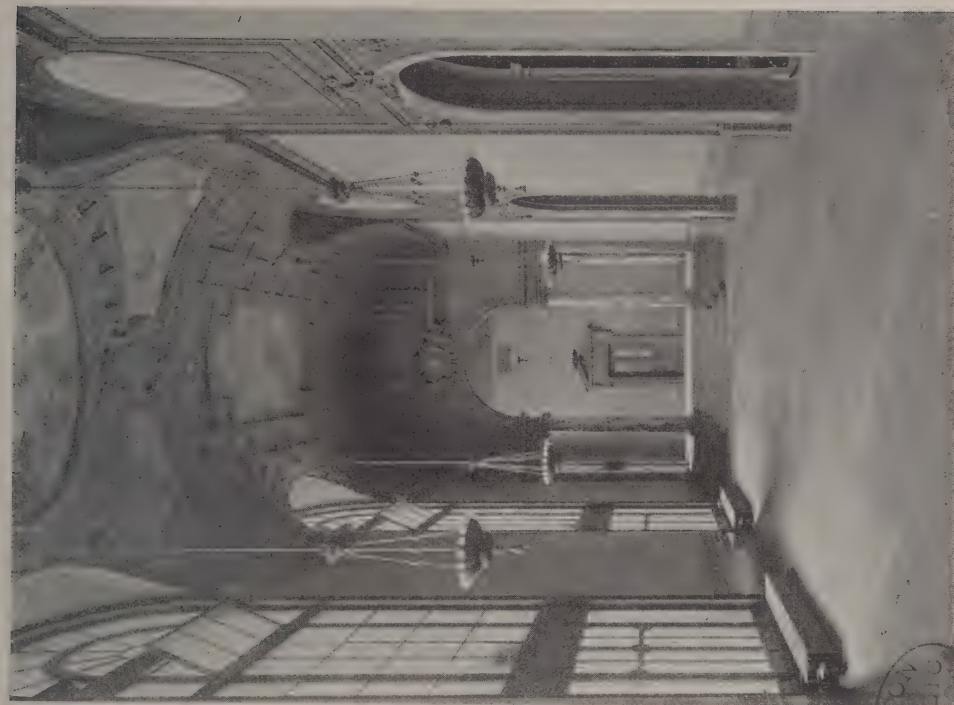


Corridor.

## THE NEW THEATRE.

Central Park West and 62d and 63d Streets, New York City.

(Photos copyright, 1909, by The New Theatre.)



Foyer.

THE NEW THEATRE.  
(Photos copyright, 1909, by The New Theatre.)



Baudry Painting on Ceiling of Foyer.

New York City.





THE NEW THEATRE.

New York City.

(Photo by A. Patzig.)

## A Complete List of the Clients of Messrs. Carrère & Hastings

(NOTE:—The following list contains the clients of Messrs. Carrère & Hastings during their existence as a firm—a period of about twenty-five years. The names which are preceded by an asterisk (\*) are those whose buildings are illustrated in this issue. The date of erection of the building follows its owner's name, and its location in every case.

### HENRY M. FLAGLER.

- |  |   |
|--|---|
| Achelis, Fritz, New York City.                         | Benedict, J. H., New York City.                   |
| Adams, Miss Maude, New York City.                      | Bishop, T. B., San Francisco, Cal.                |
| * Alcazar Hotel, St. Augustine, Fla., 1888.            | * Blair, C. Ledyard, Peapack, N. J., 1898.        |
| Alexander, J. H., Elizabeth, N. J.                     | Blair, James A., Oyster Bay, N. Y.                |
| * Alpha Delta Phi Fraternity, Amherst, Mass., 1888.    | * Blair & Company, New York City, 1902.           |
| Astor, John Jacob, New York City                       | Bliss, C. N., Oceanic, N. J.                      |
| Atlantic City Improvement, Atlantic City, N. J., 1906. | Blum, Robert, New York City.                      |
| Bailey, Doctor Pearce, Katonah, N. Y.                  | * Borden, M. C. D. (Tomb), New York City, 1906.   |
| Baker, Walter, Chicago, Ill.                           | Bostwick, J. H., Spring Lake, N. J.               |
| Baldwin, F. A., Tuxedo, N. Y.                          | Breese, Mrs., Aurora, Ill.                        |
| Baltzell, Doctor William Hewson, Wellesley, Mass.      | Brooklyn Presbyterian Chapel, Brooklyn, N. Y.     |
| Bancroft, Mrs. O. A., Fordham, N. Y.                   | * Brooklyn Bridge Approach, New York City, 1906.  |
| Bank of Toronto, Toronto, Canada.                      | Brown, Doctor Dillon, New York City.              |
| Bank of Toronto, Gananoque, Canada.                    | Brookside Park, Essex County, N. J.               |
| Bank of Toronto, Petrolia, Canada.                     | Bull, William Lanman, New York City.              |
| Bank of Toronto, West Branch, Canada.                  | Burrill, John E., Woodlawn, N. Y.                 |
| Bank of Commerce & Industry, Mexico City, Mexico.      |   |
| Barrows, Mrs. Ira, Monmouth, N. J.                     | * Carnegie Institution, Washington, D. C., 1906.  |
| Beales, De Sota, Greenwich, Conn.                      | * Carnegie Branch Libraries, New York City, 1906. |
| Bell, F. A., Morristown, N. J.                         | Carpenter, F. W., Providence, R. I.               |
| Belmont, Perry, Newport, R. I.                         | * Carrère, John M., White Plains, N. Y., 1905.    |
| * Benedict, E. C., Greenwich, Conn., 1891.             | * Carrère, John M., New York City, 1902.          |
| Benedict, F. S., Oyster Bay, N. Y.                     | Carstairs, Mrs. M. W., Staten Island, N. Y.       |
|  | Case Memorial Library, Auburn, N. Y.              |

- Caswell, M., Narragansett Pier, R. I.
- \*Central Cong. Church, Providence, R. I., 1891.
- Chubb, Percival, New York City.
- Church of the Epiphany, New York City.
- Clarke, Chas. J., Palm Beach, Fla.
- \*Cleveland Trust Company, Cleveland, Ohio, 1903.
- Cleveland—City Planning, Cleveland, Ohio.
- Clinton Club House, Livingston, N. Y.
- Cochran, Burke, New York City.
- Collins, F. C., Staten Island, N. Y.
- Commonwealth Club, Richmond, Va.
- Connor, Washington, E., Seabright, N. J.
- \*Cornell University—Rockefeller Hall—Goldwin-Smith Hall, Ithaca, N. Y., 1903.
- Craig Colony, Sonyea, N. Y.
- Cricket Club, Staten Island, N. Y.
- Cromwell, Frederick, New York City.
- Cromwell, W. N., New York City.
- Cuban Bank, Havana, Cuba.
- Curtiss, Julian, Greenwich, Conn.
- Daly Monument, Butte, Montana.
- Dana, Charles H., Roslyn, L. I.
- Davis, Charles H., Tuxedo Park, N. Y.
- Dickson, James B., Yonkers, N. Y.
- Dillingham, Charles B., New York City.
- Dominion Bank, Windsor, Ont.
- Dominion Bank, Vancouver, B. C.
- Dominick, C. F., New York City.
- Domonick, Geo. F., Greenwich, Conn.
- Downey, John, New York City.
- DuBois, Arthur, Greenwich, Conn.
- \*Duncan, Jr., Wm. Butler, Port Washington, L. I., 1903.
- \*Dunham, Dr. E. K., New York City, 1898.
- DuPont, Alfred I., Wilmington, Delaware.
- \*Duryea, Herman B., Westbury, L. I., 1903.
- Earle, Edw., Narragansett Pier, R. I.
- Edison Building N., New York City.
- Ellis, Frank, Washington, D. C.
- \*Ely School, The Misses, Greenwich, Conn., 1905.
- \*Empire Theatre, New York City, 1903.
- Ethical Culture School, New York City.
- Fearing, Col. Geo. R., Newport, R. I.
- \*First National Bank, Paterson, N. J., 1903.
- \*First Church of Christ Scientist, New York City, 1903.
- \*First Church of Christ Scientist, Philadelphia, Pa.
- Fish Hamilton Park, New York City.
- \*Flagler, Henry M., Residence, Palm Beach, Fla., 1901.
- \*Flagler, Henry M., Mausoleum, St. Augustine, Fla., 1906.
- Fowler, Chas. N., Elizabeth, N. J.
- \*Foster, Giraud, Lenox, Mass, 1897.
- Freeman, F. M., Bellhaven, Conn.
- \*Freeman, F. P., Lakewood, N. J., 1891.
- French, F. O., Tuxedo Park, N. Y.
- Furniss, Miss, New York City.
- \*Gambrill, Mrs. Richard, Newport, R. I., 1898.
- \*Gazier, S. W., Elberon, N. J., 1903.
- \*Goodyear, Frank H., Buffalo, N. Y., 1903.
- Gould, Edwin, New York City.
- Greer, Bishop, New York City.
- \*Guggenheim, Daniel, Elberon, N. J., 1890.
- \*Guggenheim, Murry, Elberon, N. J., 1903.
- Hammond, John H., New York City.
- Hamilton College—Science Hall, Clinton, N. J.
- Harbor Hill Golf Club, Staten Island, N. Y.
- Harriman, Edw. H., Arden, N. Y.
- Harper, J. Thorne, Atlantic City, N. J.
- Harper, J. H., Cedarhurst, L. I.
- Hastings, F. S., New York City.
- Hastings, Geo. S., Morristown, N. J.
- \*Hastings, Thomas, Port Washington, L. I., 1900.
- Havemeyer, H. O., New York City.
- Hecker, J. V., Farmington, Conn.
- \*Hertel, Dr. C. A., New York City, 1893.
- Hess, Selmar, Seabright, N. J.
- Hoadly, Mrs. Geo., New York City.
- Hoagland, C. N., Atlantic City, N. J.
- \*Hoe, R. M., New York City, 1893.
- Hocy, Fred., Redbank, N. J.
- Hoffman, Charles F., New York City.
- \*Hoffman, F. B., New York City, 1906.
- \*Holly Monument, New York City, 1890.
- Hopkins, Dr., Summit, N. J.
- \*House of Representatives, Office Building, Washington, D. C., 1905.
- Hoyt, J. S., New York City.
- \*Jefferson Hotel, Richmond, Va., 1893.
- \*Jennings, Walter, Cold Spring Harbor, L. I., 1897.
- Johnson, E. H., Greenwich, Conn.
- Jones, Eugene, Tarrytown, N. Y.
- Jones, F., Tarrytown, N. Y.
- \*Kahn, Otto H., Morristown, N. J., 1898.
- \*Kunhardt, W. B., Mausoleum New Dorp, S. I., 1896.
- Ladd, I. Gifford, Providence, R. I.
- \*Lafayette Monument, Paris, France, 1899.
- \*Laurel-in-the-Pines, Lakewood, N. J., 1891.
- Lawson, W. S., Bellhaven, Conn.
- Lawson, W. S., Bellhaven, Conn.
- \*Life Building, New York City., 1893.
- Litchfield Park, Ridgefield, N. Y.
- Mackey, Clarence, Roslyn, N. Y.
- \*Mail & Express Building, New York City, 1891.
- \*Manhattan Bridge, No. 3, New York City, 1905.
- Mayo, P. H., Richmond, Va.
- \*McKinley Monument, Buffalo, N. Y., 1903.
- Meeker, Harry, Oceanic, N. J.
- Metropolitan Museum of Art, New York City.
- Metropolitan Opera House, New York City.
- \*Methodist Church, St. Augustine, Fla., 1887.
- Meyer-Sniffin Company, New York City.
- Miller, William Starr, Rhinebeck, N. Y.
- Mitchell, J. A., New York City.
- Moran, Charles A., New York City.
- Mosle, George R., Staten Island, N. Y.
- Murphy, Franklin, Newark, N. J.
- Newark Presbyterian Church, Newark, N. J.
- \*New Theatre, New York City, 1906.
- \*New York Public Library, New York City, 1897.
- Nichols, Mrs. Allen, East Orange, N. J.
- Palmer, Senator Thomas W., Detroit, Mich.
- \*Pan American Exposition, plan and accessories, Buffalo, N. Y., 1901.
- Parsons, William Barclay, New York City.
- Parmelee, James, Painesville, Ohio.
- \*Paterson City Hall, Paterson, N. J., 1893.
- Payne, William H., New York City.
- Payne, Oliver, H., New York City.
- Peace Palace at the Hague.
- Peck, Norman, Greenwich, Conn.
- Peck, Wallace F., New York City.
- Phillips, Charles S., New Brighton, S. I.
- \*Pierce Building, New York City, 1891.
- Pitcairn, Robert, Pittsburgh, Pa.
- \*Pitcairn, John, Bethayres, Pa., 1893.
- Pitkin Memorial, Yale University, New Haven, Conn.
- \*Ponce de Leon Hotel, St. Augustine, Fla., 1887.
- Portland City Hall, Portland, Maine.
- Presbyterian Church, Oceanic, N. J., 1890.
- Providence Congregational Church, Providence, R. I.
- Rathbone, Joel, New York City.
- \*Richmond Borough Hall, St. George, S. I., 1903.
- \*Rives, George L., New York City, 1906.
- Rockefeller, William, Tarrytown, N. Y.
- Robinson, T. H., Morristown, N. J.
- \*Root, Elihu, Country House, Southampton, L. I., 1896.
- \*Root, Elihu, Residence, New York City, 1903.
- Root, Talbot, Clifton, S. I.
- Rome High School, Rome, N. Y.
- Royal Alexander Theatre, Toronto, Ont.
- \*Royal Bank of Canada, Toronto, Ont., 1906.
- Royal Bank of Canada, Winnipeg, Ont.
- Royal Bank of Canada, Victoria, B. C.
- Royal Bank of Canada, Alberta, Ont.
- Ryan, Thomas F., New York City.
- Sailors' Snug Harbor, Staten Island, N. Y.
- Schirmer, George, Union Hill, N. J.
- Schiller Monument, P---hester, N. Y.
- Scribner, Arthur H., Mt. Kisco, N. Y.
- \*Senate Office Building, Washington, D. C., 1905.
- \*Senff, Charles, New York City, 1900.
- Shelton, Dr. George, New York City.
- \*Sloane, H. T., New York City, 1894.
- Sloane, W. D., New York City.
- Sneath, E. H., New Haven, Conn.
- Stanley, William, Great Barrington, Mass.
- Steers, J. R., Greenwich, Conn.
- \*Staten Island Ferry Terminal, St. George, S. I., 1903.
- Staten Island Academy, St. George, S. I.
- \*St. John's Park, New York City, 1897.



\*St. John the Divine, Cathedral Competition, Morning-side Heights, N. Y., 1892.  
 \*St. Louis Exposition, St. Louis, Mo., 1904.  
 St. Mary's Church, New York City.  
 St. Matthew's Church Altar.  
 St. Paul's Rectory, Staten Island, N. Y.  
 Squibb, E. R., New York City.

Tenny, C. H., Methuen, Mass.  
 \*Thompson, L. S., Redbank, N. J., 1898.  
 Thompson, R. G., Brookdale, N. J.  
 Thompson, W. P., Roslyn, L. I.  
 Thompson, William B., Greystone, N. J.  
 Titus, O. C., Staten Island, N. Y.  
 Todd, James Ross, Louisville, Ky.  
 Toronto Terminal, Toronto, Canada.  
 \*Townsend, Mrs. R. H., Washington, D. C., 1893.  
 \*Traders Bank Building, Toronto, Canada, 1905.

United States Capitol.  
 Uniontown Church, Uniontown, N. Y.  
 Union Station, St. Augustine, Fla.

Utica Public Library, Utica, N. Y.

Valentine, Samuel H., New York City.  
 Vanderbilt, George W., Clifton, S. I.  
 \*Vanderbilt, Jr., W K., Great Neck, L. I., 1903.

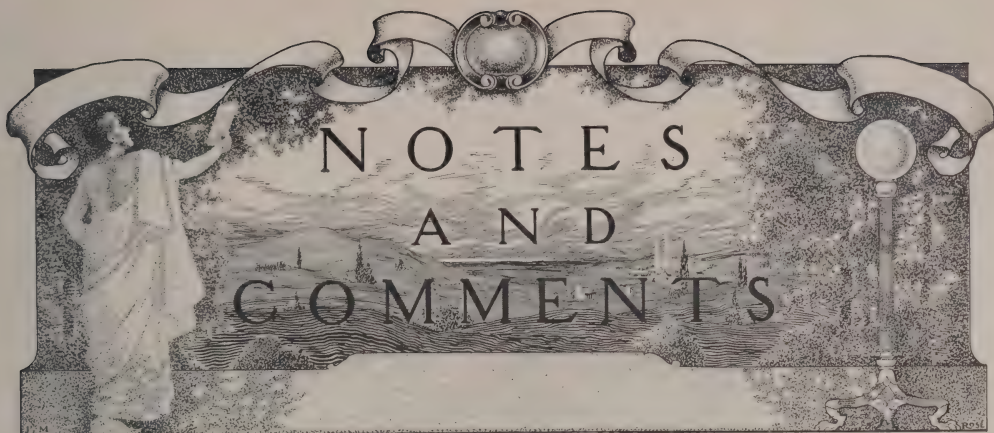
Wales, Salem H., Southampton, L. I.  
 Warren Monument, Boston, Mass.  
 Waumbeck Hotel, Jefferson, N. Y.  
 Wellman, Francis L., New York City.  
 Wellesley Park, Wellesley, Mass.  
 Wertheim, Henri, Morristown, N. J.  
 \*West End Chapel, New York City, 1889.  
 Whitney, W. C., Aiken, S. C.  
 Williams, Otis L., St. George, Staten Island.  
 Winthrop, Frederick, Boston, Mass.  
 Winthrop, Grenville L., Lenox, Mass.  
 Winthrop, Mrs. Robert, Lenox, Mass.

\*Yale University, Bi-Centennial Buildings, New Haven, Conn., 1901.  
 \*Young, Mrs. Albert, New York City, 1894.



RESIDENCE OF GEORGE L. RIVES, ESQ. (1906)—LIBRARY.

LIBRARY



## PUBLIC APPRECIATION

The memorial meeting held about a month ago in honor of the late Charles F. McKim in the auditorium of the New Theatre was a testimonial to a noble work nobly done, and it was more than that. It was an indication of the added prestige which has come to the profession of the architect through the efforts of a member of that profession whose prophetic foresight, ripe training and high ideals would have made him a conspicuous figure in any profession which he might have selected as his life work.

That McKim was really a great man there could have been left no doubt in the minds of that audience after listening to the sentiments delivered by ex-Ambassador Joseph H. Choate and Senator Elihu Root; or the more intimate addresses of Mr. Robert Peabody, of the Fine Arts Museum at Boston, or of Mr. Walter Cook, one of McKim's oldest living brother professionals. Neither could anyone who heard these speeches doubt that the profession of architecture as well as the public was a decided gainer by work of which McKim was the promoter. It was entirely unprecedented for a large audience of New Yorkers to gather for no other purpose than to hear sung the praises of a departed architect. Be it understood, that audience which wended its way through a disagreeable raw and rainy day was not one composed chiefly of brother architects. On the contrary, it was a very representative audience of individuals of many interests whose bond of sympathy was an interest in American art and architecture. It was in-

deed flattering to the profession as well as to the memory of McKim the growth of that interest as proved by this unprecedented occasion.

## COMMERCIAL ARCHITECTURE AND UTILITARIAN CLIENTS

It has of late been often remarked in the proceedings of architectural bodies and in the pages of the architectural press that the architect as a professional man has, up to date, attained a very indifferent standing with his clients and the public. The most frequent reason assigned for the general indifference to the architect and his work as such is the general commercial tendency of the age in which, some critics say, we are "so unfortunate" as to live. Others say that the ultimate development of the art of architecture has been reached and therefore the architect of the present must be merely a copyist if he would, in any sense, be worthy of the name artist. He must, in his feeble way, help to perpetuate the glorious past.

It occurred to the writer, while calling on a gentleman who has had extensive experience in designing commercial buildings, that there might be something of interest to the profession as well as to the public on the question of commercial architecture and utilitarian clients. In discussing the subject he found that he was not deceived.

"It seems inexplicable to me," he began, "after so many years of laboring on the problem of the commercial building here in New York and elsewhere, that architects as a class should still be so far away from what are for them the vital issues involved. The commercial building, as its name im-



plies, is, of course, first and foremost a business proposition. This is the owner's view and it should be the architect's as well if he would arrive at a conclusion satisfactory to his client and, as far as possible, to himself. To the architect, of course, the problem of commercial building means something more than merely making it pay. It means the marshalling of the great number of conditions into a smooth-running and harmonious whole. It is here that his capacity for design is tested. When it is taken into consideration how many different sets of conditions must enter his calculations and how much detailed knowledge is involved, it becomes comprehensible that an owner should be willing to believe necessary the services of an expert who is capable of making for him out of such chaos a workable machine."

"But," I interrupted, "is it not a fact that the development of architecture has ever been attended by the greater complexity of the practical conditions to be met?" Should not the architect's standing with his clients be better to-day than it ever was in olden times?

"Yes and yes, decidedly," were the answers. The story of the development of architecture from the Greek Temple to the Metropolitan Life Tower is an account of the increasing complexity of building conditions. Take for example, the transition from Greek to Roman civilization. What a revolution in the art of building it involved! And yet the Roman architects were equal to the feat required of them. We of the twentieth century have experienced greater changes since and are experiencing them every day. But are we meeting the conditions as well? And what has all this change to do with arresting the development of building as an art? One can readily sympathize, of course, with the view of some members of the profession who are so wedded to their 'art' that a sane consideration of the immediate problems pressing for solution seems to them an utter waste of effort. From what a distorted and narrow standpoint such a view must regard the problems of a modern skyscraper! And yet "pull" and political influence are supposed to account for the phenomenal prosperity of some architects and the comparative failure of others. Improper influence is, of course, at work in every field of activity and it always has been so, but a careful analysis in the case of commercial architecture at least, will convince the investigator that patronage is generally distributed with partiality only because such partiality has been honestly earned by past success."

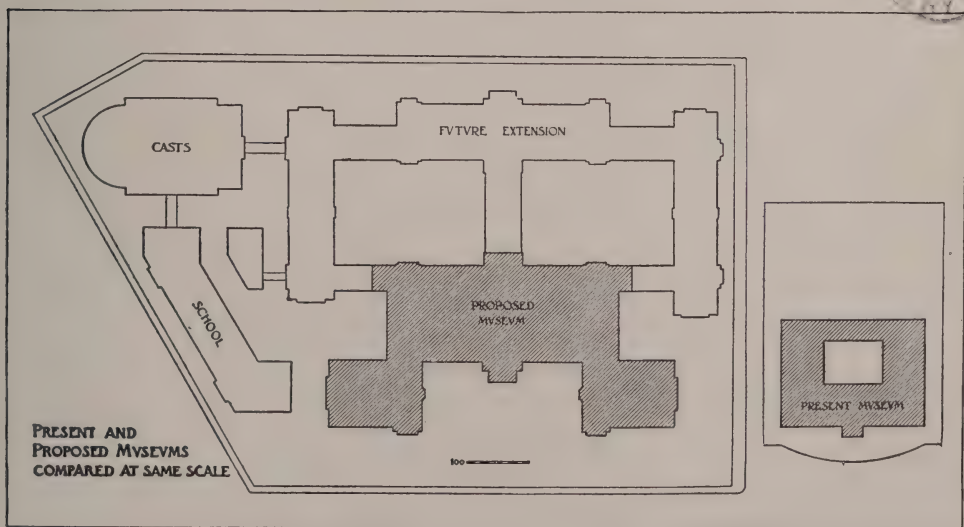
The writer was not prepared for so frank an admission of the shortcomings of the profession from one of its oldest members, but on reflection he was able to call to mind instances of architects of the highest standing who have not proved themselves especially strong in solving the problems of commercial buildings and who, in consequence, have not been overburdened with jobs of this kind. One instance especially stands out as a good example of the fairness of things. There are several prominent banking houses and a number of office buildings in the financial district of New York which have been very widely admired for their architectural character. Inquiry of the success of these propositions as investments discloses the fact that they contain a number of vacant offices and the cause is not hard to seek; the illumination is insufficient for office purposes. The windows turned out smaller than the conditions of use warranted, although a satisfactory external architectural composition had been arrived at. The light shaft was, of course, too small and too deep to help matters much. The buildings are not suitable for their purposes and the architect cannot hope to be recommended by them for similar work in the future. Older office buildings afford instances of mistaken architectural solutions where the initial expense incurred and the character of the accommodations afforded have precluded any possibility of financial success. On the other hand, it is observable that commercial buildings which have satisfied the expectations of their owners are generally well planned and consistently designed in keeping with the funds at disposal.

It is in the field of commercial work especially that the architect can most effectively demonstrate his value as an expert, and it is in buildings of this kind that the issues involved are most clearly understood by the public. When once the architect has demonstrated to an owner's satisfaction that architectural services are valuable in that they save and make money for him, just so soon will he be willing to allow his architect a freer scope in spending money where it is impossible to show beforehand that there will result therefrom any benefit to the owner's pocketbook. Of course, an architect can obtain a client's confidence only by demonstrating to him that he is entitled to it, and the only way in which such a demonstration can be effected is by an architect's complete mastery of the thousand and one things which decide him in finally formulating his solution of the design. The evidence of such a mastery is irrefutable.

Commercial architecture holds the key



Entrance Pavilion.



Block Plan.

THE NEW MUSEUM OF ARTS.

Boston, Mass.

Guy Lowell, Architect.  
 Edmund M. Wheelwright,  
 D. Despradelle,  
 R. Clipston Sturgis, } Advisory Architects.



whereby the architect may admit himself to that professional standing to which his calling entitles him. The client will continue to be utilitarian, but what matters it so long as the architect possesses the confidence of the man for whom he is working and while he accepts and interprets his requirements is able to impose upon him the higher standards of the profession.

### WHAT CITY BUILDS

At the close of the campaign, the municipal paper "Philadelphia" appeared with a supplement of upwards of fifty pages, and all these pages were devoted to illustrations—two to the page—of public improvements made locally between April, 1907, and October, 1909. The first thirty pictures were of bridges and viaducts, and that was the best work shown. The next twenty-four pictures illustrated schools, completed or in process of construction. Some good work was shown, but judged by standards lately established in Chicago, St. Louis, and New York these were not notable—as many of the bridges certainly are. Views of the water filtration plant occupied the central pages, and then came about a dozen views of fire and police stations. After these were the new bath houses. The balance of the magazine was devoted to smaller parks, sewer and filtration work, and finally new hospitals. Very seldom indeed is the opportunity given thus to review pictorially the construction work done by a city through a term of months. On the whole, it may be said that the work shown seems substantial, practical, but from the point of view of architectural design quite commonplace—the bridge work being, as said, an exception. The most striking thing about the collection of pictures is its magnitude—an impressive illustration of the quantity of public improvement work which goes on quietly and in matter of fact fashion in the course of a city's normal development. The re-building of cities is in progress all the time, and the greatest builder is the city itself.

### MURAL PAINTINGS IN THE WEST

There was put on exhibition last month, in the museum in City Park in Denver, a collection of E. H. Blashfield's studies for his mural decorations, and many large photographs of the completed paintings. The incident seems to have a significance above

most such exhibitions. It was arranged under the auspices of the Architects' Club of Denver—a club which, having been organized only a few weeks, thus gave immediate proof of its virility and of its probable usefulness to the community. Denver is the first city of the West to see such an exhibition. Perhaps as little as ten years ago the West would not have cared to see it, or, if seeing it, have—generally speaking—understood it. But there has lately been a rapid development of art interest in that section of the country, and within five years Minnesota, Wisconsin and Iowa have beautified their State buildings with the work of the foremost mural painters. Mr. Blashfield is himself under contract now for a large panel for the new State capitol at Pierre, S. D. The subject of the Western mural paintings are for the most part historical, and connected with the regions in which the paintings are drawn—as the discovery of the Mississippi, at St. Paul, the "Westward," at Des Moines—and thus help to at once visualize and idealize the history of the section. It can be readily believed that the exhibition, in bringing together the representations of these paintings which can be seen in the original only by those who visit the far scattered cities where they are, must be very stimulating in the West, and may in its effect prove a real art event. For mural painting, as developed with its ideal personifications, opens a new world of art, poetry and romance. In New York, Mr. Blashfield had on exhibition for a few days last month the interesting mural decoration, "Law," which is to occupy a panel above the seat of the judges in the Court House at Cleveland, of which Arnold W. Brunner is the architect.

### BOSTON'S NEW MUSEUM OF FINE ARTS

There is very general praise for the new building, recently opened, of the Boston Museum of Fine Arts. Located on a site of twelve acres, on Huntington Avenue and the Fenway, it is in that new and imposing quarter of Boston where are gathered the buildings of the Harvard Medical School, the new Opera House, Simmons College, Fenway Court, Symphony Hall, etc. Though less than half the structure ultimately contemplated, it presents a façade of 500 feet on Huntington Avenue, and is of such beauty and dignity as to be free from any suggestion in its aspect of present incompleteness. The style is classical, freely interpreted, and the material is cut granite. The main entrance has triple doorways with mas-

sive bronze doors, and above the entrance is a portico with four Ionic columns. This motif has been repeated in simpler form in the pavilions which advance from the wings on either side, the present building consisting of two wings and the central block connecting them. It covers an area of seventy-three thousand square feet. The two projecting wings it has been, perhaps, fantastically imagined, have the effect of arms held out in invitation and welcome. At all events, there is nothing forbidding about the arrangement. As to the interior, there is ample justification, as might have been expected, for the unusual degree of serious study that was devoted to the planning and lighting of the building. Some novel ideas have been embodied. Each department is accommodated in a section that appears to be structurally separate and a complete museum in itself. The second, or main exhibition, floor contains the cream of the collection of each department—that is, it contains the objects that are most beautiful and most appeal to the general public; the floor below contains the research or study collections, more comprehensive and more compactly installed. There are seven great departments, and in each the greatest care has been taken to give the objects exhibited not only the best possible light but the most advantageous sort of background. The latter efforts have resulted in some very interesting color schemes, with various shades of gray the most common tone.

### **PITTSBURGH HAS AN IDEAL**

The Pittsburgh Civic Commission has issued most attractively a decorative little brochure defining its plan and scope. That the program, lists of committees, etc., should be issued in this delightfully appealing form is a thing to note. The brown cover carries the title in gilt lettering and the seal of the city in color. There are many illustrations, and every page is framed. When Pittsburgh makes up its mind to do a thing, it never wants for money. Following the title page, there comes, below a picture of old Fort Pitt, a brief definition of the purpose of the Commission. This is summed up, really, in the last lines of the definition: "to establish such living and working conditions as may set a standard for other American industrial centers." On the next page is the list of officers, and of the Advisory Board. The latter includes such men in New York as Robert W. DeForest, John M. Glenn, John W. Alexander and Seth Low; as, in Chicago, D.

H. Burnham; as, in Boston, Robert A. Woods. Then are three pages of committees, covering the many phases of municipal development: Education, City Planning, Municipal Art and Design, City and District Housing, Public Hygiene and Sanitation, etc. In all there are fourteen committees, each having as chairman a member of the main Commission. The committees are to study, within their several special fields, the possibilities and needs of the city. By comparison of the progressive policies of other cities, with the advice of men of practical experience and by a grasp of actual local conditions, the committees will formulate their plans. The execution of the plans is to be secured by creating an effective and persistent public opinion in their behalf. For this purpose the Commission has created ward organizations, which will carry the plans into every local organization. The Commission announces that it deems that an expenditure of "at least \$50,000 per year is necessary" for carrying on its work. The whole wonderful movement is Pittsburgh's reply to the findings of the "Pittsburgh Survey."

### **ST. JOHN'S CHAPEL, NEW YORK**

The annual report of the American Scenic and Historic Preservation Society, which has just come from the press, says of last winter's protest against the determination of

Trinity corporation to allow the destruction of old St. John's Chapel, that the protest, temporarily successful, was one "which has not been paralleled in both kind and extent within the memory of the present generation." It adds: "If anyone ever thought that the people of New York 'lacked historical imagination,' as has been charged, the popular demand for the preservation of this century-old building was enough to disprove it." The Society took the same position regarding this venerable landmark, which is intrinsically valuable as a fine specimen of church architecture, that it had taken with regard to the preservation of the beautiful old First Presbyterian Church. This is the plea that in the ever changing metropolis the people must look to the churches and cognate institutions for their landmarks and evidences of stability. "Business structures and apartment houses rise and disappear in a generation under the exigencies of the city's growth. There is little permanence upon which to fasten one's memories, affections and historical traditions. The city needs just such piles as old





The Portico of St. John's (1803).

John McComb, Architect.

St. John's." The plans for the chapel, which are believed to have been made by John and Isaac McComb, were adopted by the vestry May 12, 1803. The building was begun that year and completed in 1807 at a cost of \$172,833.64, which, as the Society's report truly says, "was considered enormous at that time." The foundations, portico, front and tower are built of red sandstone, and the walls of rough hewn, grayish native stone "of the island apparently," stuccoed. Its style answers to the general term Georgian, but is more massive and ornate than St. Paul's. Shorn of its former beautiful and open surroundings, it is now "pent up between big buildings on the north and south, while its front steps are only fifty-seven feet from the freight depot across Varick Street on the west, and its rear wall is only twenty-four feet from the front wall of the buildings across St. John Street on the east."

### THE BOSTON EXPOSITION

In spite of the short time which was allowed for preparation, the Boston-1915 Exposition proved as big and as interesting as its friends predicted that it would—which is

to say that, while not absolutely ideal in its ordination, it was the biggest and most interesting exposition of its kind that any city has ever held, fully justifying the phrase in

the advertisements, "See Boston as you never knew it." It was open for the whole month of November in the old Fine Arts Museum on Copley Square, and between the exhibits and the attending crowds there was not an inch of room to spare. The Boston "Transcript," which had shown a marked lack of enthusiasm before the exposition opened, said after it closed: "It won its way to the public heart by sheer dint of 'service' and sincerity. It opened the eyes of the people to both the riches and the shortcomings of our every day life. . . . The pace set for us was seen in the ideal pictures of the new Chicago, promised by the movement in progress there, and in the ground-plan of the new Kingsway in London." If the exposition did this, it certainly served its purpose, and it is most interesting to know that by means of an admission fee it paid its way in so-doing. The catalogue was not only complete and extensive, but appropriately of educational value. This is because it contained, as introductory to the list of exhibits in each department, a competently written, signed, and popularly informing article on what that department stood for. Thus there is first an article entitled "What City Planning Means," by Frederick Law Olmsted. The catalogue of exhibits of Public Buildings, arranged by the Boston Architectural Club, is introduced by an article on the subject of their location by Robert P. Bellows. Philip Cabot writes the article introducing the list of exhibits of Housing; Herbert J. Kellaway that introducing the list of exhibits of parks and playgrounds. On railways, docks and highways, Arthur A. Shurtleff was the writer. Just as the exposition opened, Dr. Hegemann, a young German who had been assisting in its preparation, was called back to Berlin to help prepare a municipal exhibition to be held there next summer. So extends the practice of holding municipal exhibits.

### PLEA FOR HARMONIOUS BUILDING

In the review of Raymond Unwin's book on Town Planning,\* which was printed in this magazine last month, the English author was quoted as advocating the enforcement of regulations requiring the use in construction work of certain materials in certain streets, fixing definite roof lines, angles, etc. The idea will seem fantastic to a good many

\*Town Planning in Practice. Raymond Unwin, A. R. I. B. A. Publisher: T. Fisher Unwin, Adelphi Terrace, London.

Americans, though his argument is unanswerable: "If we are to have beauty of surroundings—and for what does the profession of architecture exist if it is not to produce beautiful surroundings?—we must set our faces against the development of such incongruities in our buildings as completely destroy the harmony of our street pictures." Now it is interesting, on top of this plea, to come across a little article published in a neighborhood paper two or three weeks before Unwin's book appeared, in which Claude Bragdon, one of the most thoughtful and interesting of our own younger architects, makes an exactly similar plea. Mr. Bragdon says in the course of his article in "The Pinnacle," a paper which represents a small residential section in Rochester—indeed, his paper is entitled, "Ideals for the Architecture of the Fourteenth Ward," that there are three things to be striven for, in securing beauty for a street: "First, unity of style. Widely divergent types of houses should not be built in juxtaposition, as one so often finds them,—pillared portico check by jowl with rustic piazza. Second, similarity of materials. Brick, frame, and plaster houses, indiscriminately interspersed make a street resemble a suit of clothes in which coat, vest and trousers are cut from different kinds of cloth. Third, harmony of color. The colors of adjacent houses should be, not necessarily the same (though that is often pleasing, too) but harmonious with one another. It is further desirable that there be no marked differences of level in water-table, cornice and roof lines, in order that the eye may be led without interruption down the vista of the street." This is going quite as far as Mr. Unwin ventures. Most interesting, too, is Mr. Bragdon's suggestion that in this matter we may gain a hint from certain streets in such old towns as Salem, Portsmouth and Annapolis, that are "unsurpassed for beauty of general effect" notwithstanding all the money which is nowadays spent on houses and grounds. In those streets, "the houses, built at substantially one period—a period characterized by taste and discretion—are individually charming, though all in the same style (the so-called colonial), and of the same material, red brick and wood, painted white." From them, he thinks, we may learn the lesson that restraint of individuality in architecture, in the interests of a general effect or impression, involves the sacrifice of but excesses and excrescences.

Some weeks after Mr. Bragdon's paper was printed, Mr. Unwin returned again to

the theme in an address before the Letchworth Art Workers' Guild, which is now printed in "The City," a little monthly published at Letchworth. He notes that town planning, to have any real stability, "must be the direct outgrowth of the activities of the community who are to dwell and work in the town or suburb when built," and that there must be secured "the co-operation of the architects who may design the individual buildings of which the completed whole will be composed. From them we shall have to ask that they shall ever remember that the part is not greater than the whole. . . . During the last century architecture in this country has been, generally speaking, individual only. There has been no tradition, no conscious agreement, no regulation to co-ordinate the work of different men. Each has concentrated his attention on his own building." This is too sweeping a statement to be quite just, but it is so nearly true that it gives much point to Mr. Unwin's reply to those who say that they like "plenty of variety," "These people," says he, "seem to think that variety means mere unlikeness of several things to each other, but that is not variety at all. Variety means simply the minor changes of some fixed type. In music we speak of an air with variations. Each phrase is varied from the air; but the air, the common likeness, is greater than the differences. Variety consists of subtle changes wrought in things essentially related. Unity must dominate." Coming, further on, to concrete considerations, he says: "The element of design is especially needed in suburban streets. Too often, on the one hand, we see to-day endless monotonous rows of houses, repetitions of some unit uninteresting in itself and small in scale in relation to the street. On the other hand, we have the equally monotonous street of detached or semi-detached villas, needlessly repeated, or—and this is almost worse—each different to a degree that dissociates it from any of its neighbors. We may have scattered buildings, near enough to each other to destroy any of the ordinary beauty of the country and yet too scattered to give any sense of architectural effect or to acquire any of the beauty one associates with the town. On suburban roads the distance between the buildings in relation to their height tends to be too great, and the street pictures either represent long straight vanishing lines converging at some distant point, or a mere jumble of unrelated buildings on opposite sides of a wide road, meandering on without pro-



ducing any definite effect at all. To obtain a successful result it seems to me we must adopt the principle of grouping our buildings into larger wholes, creating larger units in the street picture." All this is certainly very interesting and suggestive, and however trite the thought may be its expression at least is comparatively novel. That it should be voiced independently but simultaneously by an architect in the United States and an architect in England, is possibly significant of its widespread pervasiveness in the profession. If that is true, results may be looked for.

**LES  
ARCHITECTES  
DES  
CATHEDRALES  
GOTHIQUES\***

This little book belongs to the series entitled "Les Grands Artistes-Collection d'Enseignement et de Vulgarisation," which is published under the patronage of the Administration of the Beaux-Arts. Forty-nine volumes for the lives of painters and sculptors have already appeared in this series and this is the first work to be thrown into the scales on the side of architecture. The plea of the author on behalf of the architects of history deserves more than passing consideration and in the very considerable number of sets of Artists' biographies which are now appearing on all sides, it is much to be desired that the architects should figure prominently, whereas as a matter of fact the historic architects do not figure at all.

As the author, M. Stein remarks, people have a habit of considering names. They attribute importance to personality. If no name is mentioned as author, the monument suffers, in the estimation of the man in the street. As a matter of fact the perversity of human nature has, in recent years, as regards its studies of historic art, given very over-balanced attention to painting and protests in favor of architecture are certainly in order. No doubt popular interest controls the publishers and no doubt popular interest thinks paintings more important, but popular interest is mistaken. At all events we have here in M. Stein's work an effort to restore the balance of things.

It is well known that details of the lives of the mediaeval architects are meager, but it may not be widely realized how much

has been done by recent students to retrieve at least the skeleton and outline knowledge of this subject. M. Stein has properly conceived his topic as involving an ordered and scientific, though brief, account of the great French Gothic cathedrals, but in spite of the small dimensions of his book it probably furnishes the only extant compendious account and list of the architects of these buildings. Little is known about them but that little deserves all possible prominence.

The French compendiums of the general class to which this one belongs have a world-wide reputation for combining scientific method and accurate scholarship with an attractive and classic literary style and with popular quality. This book is no exception to the general rule and in view of its rather difficult subject matter may be considered one of the best of its always excellent class (in France).

**SOUTHERN  
PENNSYLVANIA  
CHAPTER  
AMERICAN  
INSTITUTE  
OF  
ARCHITECTS**

A charter was granted, November last, by the York County Court to the Southern Pennsylvania Chapter of the American Institute of Architects. The granting of this charter and the establishing of this chapter, which is to cover several counties of Pennsylvania, with its headquarters at York, will be of far reaching importance to the public and to the profession. The establishing of this chapter will mean a still further widening in this state of the scope and influence of the American Institute of Architects which was incorporated in the city of New York, April 13, 1857, for the purpose, as was stated in its articles of incorporation, "to elevate the architectural profession as such, and to perfect its members practically and scientifically."

The Southern Pennsylvania Chapter was organized with the following officers: John Hall Rankin of Philadelphia, president; D. Knickerbacker Boyd of Philadelphia, vice-president; B. F. Willis of York, secretary; J. A. Dempwolf of York, treasurer, and Colbert A. MacClure of Pittsburgh.

Prior to the admission of the new chapter there were two chapters in Pennsylvania; those of Philadelphia and Pittsburgh. These three chapters will now constitute the Pennsylvania State Association of Architects which was organized at Harrisburg last February.

\*Sous-chef de Section aux Archives Nationales. 8vo. 24 ills., pp. 126. Paris, Libraire Renouard. Henri Laurens, Editeur.



# ' THE ' ARCHITEC TVRAL RECORD



## · C O N T E N T S ·

Architecture of American Colleges.....(Illustrated) 129

III. Princeton

Montgomery Schuyler

Building a Church for a Small Congregation.....(Illustrated) 161

Herbert Wheaton Congdon

The Architect's Proper Sphere..... 173

W. R. Ware

The New Club House of the Royal Automobile Club

(Illustrated)..... 175

Francis S. Swales

Lessons From Architectural Aberrations.....(Illustrated) 180

John Beverley Robinson

Utilitarian Architecture at Chicago.—I.....(Illustrated) 189

Peter B. Wight

Notes and Comments ..... 199

Is the Architect a Polytechnician?—A Subject for Investigation—  
A History of Architecture by Russell Sturgis—More Civic Work for  
Architects—City Planning in Hartford—Chestnut Street's Christmas  
Eve—Old Town and New Method—Protest That is Timely—Art  
Possessions of City of New York—Harmony in Building—Triggs  
on Street Architecture.

PUBLISHED BY

THE ARCHITECTURAL RECORD COMPANY

President, CLINTON W. SWEET

Treasurer, F. W. DODGE

Vice-Pres. & } H. W. DESMOND

Secretary, F. T. MILLER

Genl. Mgr., }

11-15 East Twenty-fourth Street, Manhattan

Telephone, 4430 Madison Square

Subscription (Yearly) \$3.00

Published Monthly

Copyright, 1910, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N.Y., Act of Congress of March 3d, 1879





Princeton, N. J.

MARQUAND CHAPEL.

Richard Morris Hunt, Architect.





## Architecture of American Colleges

### III.—PRINCETON

Princeton was in its beginnings the most migratory of our older colleges. One might almost call it ambulatory, counting its origin from that of the "Log College" of William Tennent, at "the Forks of the Neshaminy," in 1726. But that were to go back to "the twilight of fable." The real foundation of the College of New Jersey dates from the royal charter of 1746, the same year in which died the founder of the Log College, in which so many of the founders of what is now Princeton received "what colleging was theirs." The ruling motive to "the instructing of youth in the learned languages and in the liberal arts and sciences," was clearly enough the same which prevailed in the founding of Harvard and Yale, the provision of an "instructed ministry," native to the soil. Four of the incorporators were "ministers of the Gospel," as against three laymen. In order to obtain pupils, the incorporators resorted to what, even now, would be regarded as the undignified expedient of advertising for them in the New York papers, or, rather, the New York paper, which they did in February, 1747, announcing the opening of the college "the fourth week in May next, at

Elizabeth Town." Elizabeth was chosen as the home of the first president, Rev. Jonathan Dickinson. When he died, a few months later, there was nothing to keep the college at Elizabeth, and it was moved, with possibly a Thespian cartful of impedimenta, to Newark, the home of the equally Rev. Aaron Burr. Here was celebrated the first commencement, in November, 1748, with a graduating class of six. In the previous September the college had received an enlarged charter from Governor Belcher, who showed a real and enlightened interest in the project. Apparently the young institution was prepared to settle and establish itself at whatever point in the heart of New Jersey, and not too far from the dividing line between the old "Jerseys"—East and West, as they were known, though North and South would be geographically more accurate—might offer the greatest inducements. It made overtures to New Brunswick. But it laid down an ultimatum that it must be provided with "a thousand pounds proclamation money, ten acres of land contiguous to the college, and two hundred acres of woodland"; these latter primarily for fuel, no doubt, and secondarily





Nassau Hall (1756).

Dr. Shippen and Robt. Smith, Architects.

for profit. New Brunswick did not snatch at its privilege, possibly suspecting the strictly Calvinistic theology of the incorporators, and was fain to content itself, some sixteen years later, with the establishment of Rutgers, or "Queens," as a seminary of the Dutch Reformed Church. Princeton, mainly, as it appears, under the lead of Nathaniel Fitz Randolph, a benefactor commemorated in the "Fitz Randolph gates" of the actual Princeton, took the chance New Brunswick had abandoned. The College of New Jersey had found a local habitation, as well as a name, and Nassau Hall, which would have been Belcher Hall but for the modest refusal of the royal governor, began to rise in 1754. It was in all ways a fortunate decision, the more fortunate that Princeton was a Quaker settlement and could not be

supposed to be in sympathy with that rigid Calvinism which presided over the beginnings of Princeton, and is supposed still to preside over its theological inculcations with a rigor not elsewhere equalled. The taint of "Arminianism" may have spread among the Dutch settlements on the Passaic and the Hackensack and the Raritan to the northward. Nay, there was probably more than a "trace" of it in the Dutch settlement to the southward, on the Delaware, among the prevailing "Presbyterians, Quakers and Anabaptists." It is traditional at



East Entrance and Staircase, Nassau Hall.



Faculty Room, Nassau Hall (1906).

Raleigh C. Gildersleeve, Architect.

Princeton that when, at the celebration of the two hundred and fiftieth anniversary of Harvard, Dr. Holmes read his verses setting forth the liberalizing and mellowing influence which Harvard had exerted on her younger sisters, and came to the couplet:

O'er Princeton's sands the far reflections steal  
Where mighty Edwards stamped his iron heel,

President McCosh arose and stamped *his* iron heel, shaking the dust from it on the platform as he stalked indignant

thence. It would require a quantitative analysis of the dust to determine how much it was shaken in indignation at the proposition that Princeton had been liberalized, and how much at the proposition that it was Harvard which had liberalized it. The beloved and venerated "Jimmie" has himself become so much a tradition at Princeton that it gives the present chronicler a sense of antiquity to recall that he witnessed and reported the inauguration and the inaugural of 1868. It was only seventeen years before that that Thackeray had voiced in "Punch" the assumed indignation of young Ireland at the importation of Dr. McCosh from



The Old President's House (1756).

Robt. Smith, Architect.

"sweet and cheerful country," it could hardly help losing some of the asperities which it might retain amid the mountains of Switzerland or of Scotland. As George Alfred Townsend sings:

But quiet nooks like these unman  
The grim predestinarian,  
Whose scul expands to mountain views.

As a matter of fact, I have reason to believe that an open and avowed sublapsarian might find himself very comfortable as a resident of Princeton, unless, of course, he should take it into his head to become a too-candid candidate for the ministry. It is, at any rate, fortunate that the migratory College of New Jersey did not alight permanently at either of its two first roosts, at Newark or at Elizabeth. One can by no means see a great institution of learning developing along its own lines at either of those bustling and commercialized suburbs. It would long since have been submerged.



Fitz Randolph Gateway (1905).

McKim, Mead & White, Architects.

Scotland to the chair of logic in the "Orange" Queen's College at Belfast:

As I think of the insult that's done to this nation

Red tears of riving from me faytures I wash,  
And uphold in this pome, to the world's day-tistation,

The sleeves that appointed Professor McCosh.

\* \* \* \* \*

On the logic of Saxons there's little reliance

And, rather from Saxon than gather its rules,  
I'd stamp under feet the base book of his science,

And spit on his chair as he taught in the schools.

Oh false Sir John Kane! Is it thus that you praych me?

I think all your Queen's Universitees Bosh;  
And if youv'e no neetive Professor to taych me,  
I scawrn to be learned by the Saxon McCosh.

However rigid the dogmatic theology which one sets out to inculcate in this



"Prospect," the President's House (1849).

John Notman, Architect.





ALEXANDER,

WEST,

CLIO,

WITHERSPOON.

What the learned Dr. Johnson remarks of the site of St. Andrew's he might equally have remarked of the site of Princeton:

St. Andrew's seems to be a place eminently adapted to study and education, being situated in a populous, yet a cheap country, and exposing the minds and manners of young men neither to the levity and dissoluteness of a capital city, nor to the gross luxury of a town

of commerce, places naturally unpropitious to learning; in one the desire of knowledge easily gives way to the love of pleasure, and in the other is in danger of yielding to the love of money.

As to the "levity and dissoluteness of a capital city," "Artemus Ward" was able half a century ago, to report with some plausibility that "Harvard College is pleasantly situated in the barroom of the Parker House," whereas to attain even "the gross luxury of a town of commerce," the evasive Princetonian has to undergo an hour's trolleying to Trenton.

Meanwhile, Dr. Holmes's "Princeton's sands" is by no means graphic. It calls up an image of a dreary level, very different from this prettily rolling country, intersected with gently rising, rounded ridges, in the valleys between which flow rivulets crossed with admirable and picturesque old bridges of honest brown masonry, in refreshing contrast to the modern products of pontifical ironmongery. An altogether eligible site for a place of education, "a college situated in a purer air," as Clarendon has it about Falkland's house. Princeton is perhaps the largest American college in so small a town. At all events, it completely dominates the town, to the great advan-



Witherspoon Hall (1877).

R. H. Robertson, Architect.



WITHERSPOON.

BLAIR.

tage of both. No wonder that, what with the charms of the quiet rural landscape and the "purer air," what also with the charm of the "still air of delightful studies," of the atmosphere of culture, lettered ease and refinement, and, finally, with the growing charm of an appropriate and cloistral architecture, all offered within ready reach of New York and Philadelphia, Princeton should have been becoming increasingly popular as a place of residence and retirement for people who find they can live where they will. To quote Townsend again:

When we have rag'd our little part,  
And wearied out of strife and art,  
Oh, could we bring to these still shores  
The peace they have who harbor here,  
And rest upon our echoing oars,  
And float adown this tranquil sphere—

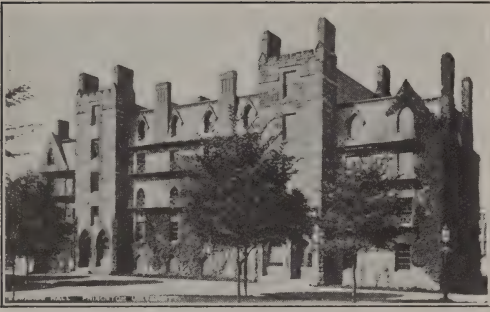
Not all the seekers for a harbor are Princeton men. Witness the memorable exception of Grover Cleveland, who casually visited Princeton, and thereupon, an old man, broken with the storms of state, came here to lay his weary bones among them. But among the returners are also sons of Princeton, who have come back to become the *alumni filii* of their alma mater, and to re-

pay with accrued interest the benefits they are sensible of having received at her hands, to become trustees or workers for the university. There is no occasion to offend their modesty by mentioning their names, which are familiar to all Princeton and to all Princetonians. But one cannot pass over such an evidence of the loyalty which Princeton has managed to inspire, and which is manifested by all her children in proportion to their ability. One of the enthusiastic architects



University Hall (1876). (Built for an Hotel.)  
R. H. Robertson, Architect.





Edwards Hall (1880).

Edward D. Lindsey, Architect.

of the architectural "instauration" now in progress has been overheard in his enthusiasm to observe "There is no Princeton man who will not rob his wife and children for the benefit of Princeton." So much one cannot help feeling and saying, even when he is dealing with the outward and visible signs whereby the inward and spiritual grace of Princeton is made manifest.

One defect in the natural constitution of Princeton has lately been made good by art. The landscape does not, at least did not, include a waterscape. The defect prevented Princeton from making a figure in aquatics comparable with her figure in other branches of athletics. But, by some felicity, it was put into the heart of Mr. Carnegie, who, according to Lord Rosebery, "scatters benefactions as a locomotive scatters sparks," to drop a particularly glowing and illuminating ember upon Princeton, and to repair the deficiencies of nature. Carnegie Lake

supplies the missing feature in the landscape, a long and shining reach of what is apparently a full-fed river, spanned with low-arched bridges, which exactly fits and fills the landscape. For the practical purpose of its creation, it is much wider than the Isis or the Cam, affords a clear three miles straightway, and gives breadth enough to afford a lively competition on even terms, without resorting to the makeshift of the "bump," while, in the meantime, affording an auditorium, or, rather, spectatorium, adequate to the requirements of the entire permanent and transient population of Princeton. It is unique among college



Interior of Marquand Chapel.

benefactions; perhaps unique, since the imperial Roman "tank" that Martial celebrated, and one is quite at a loss to know what could have been done more both to the picturesque and to the practical purpose with the money that it cost.

From almost the day of its final alighting at Princeton, the College of New Jersey took its stand as the leading place of education for the Middle Colonies. The beginnings of King's College, since Columbia, were still eighteen years in the future, and the early years of Columbia were hampered by difficulties of which it will be time to speak when we come to them. The theology of Princeton was perhaps not very distinguishable from the variety of Calvinism inculcated at Harvard or at Yale. But it was



Murray Hall (1879).  
Marquand Chapel (1881).  
Richard Morris Hunt,  
Architect.

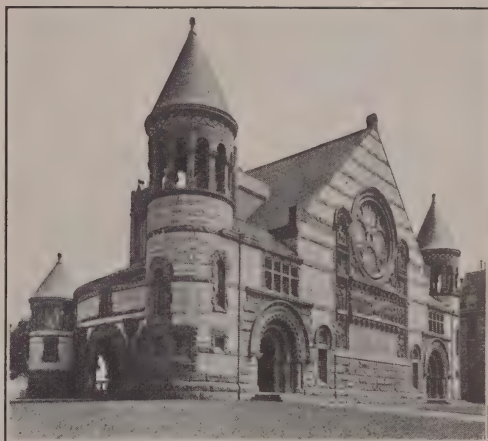
Dodge Hall (1900).

Parrish & Schroeder,  
Architects.

at least not inculcated nasally by "Yankees." One must recur to Cooper's "Satanstoe" and its successors to understand the bitterness of those provincial prejudices. Upon those prejudices, in spite of his own enslavement to one set of them, Cooper is a first-rate authority. By dint of the combined forces of imagination and tradition, he did manage to retroject himself into "the dark backward and abysm" of those Colonial squabbles of two generations before his own. And we may quite trust him when he says that, in the middle of the eighteenth century:

There is, and ever has been, so wide a difference in our customs, origins, religious opinions, and histories, as to cause a broad moral line, in the way of feeling, to be drawn between the colony of New York and those that lie east of the Byram River.

(There may be readers to whom it is necessary to explain that the Byram River is still on the map and denotes the stream which empties into Long Island Sound between Portchester and Greenwich, and thus divides Westchester County from Connecticut.) The hero of "Satanstoe," Cornelius Littlepage, born in 1737, was, naturally, according to the habits of those times, "prepared for college" at the age of fourteen, or in 1751. A family conclave decided his destina-



Alexander Hall (1892).

W. A. Potter, Architect.

tion. Harvard was too far off. "We had the choice of two," says Littlepage:

These colleges are Yale, in Connecticut, and Nassau Hall, which was then at Newark, New Jersey, after having been a short time at Elizabethtown, but which has since been established at Princeton.

There seems to be a small anachronism here. "Nassau Hall" did not exist as a name before it existed as a building, when, as we have seen, it would have been Belcher Hall but for the Governor's modesty, and the students were not moved from Newark to Princeton until after Cooper's hero was graduated. But the anachronism is immaterial to the story. The family conclave decided in favor of New Jersey, in spite of the mother's apprehensions of "that terrible voyage between New York and Powles' Hook," the same which the ferry now negotiates in twenty minutes every twenty minutes. It is interesting to note that the final decision seems to have been determined, in the minds of the worthies of Westchester, by their sense of the barbarous and abominable manner in which the English language was pronounced in the colony of Connecticut. Meanwhile, the College of New Jersey had a local habitation soon after it had a name. The final and "definitive" charter, Belcher's charter, dates from 1748. Nassau Hall was opened for the reception of students in 1756. It is thus but



Clio Hall (1893).

A. Page Brown, Architect.

Whig Hall just beyond is an architectural duplicate.





PRINCETON FROM THE RAILROAD.

Blair Hall (1897).

Cope &amp; Stewardson, Architects.

Stafford Little Hall (1899-1901).

Cope &amp; Stewardson, Architects.

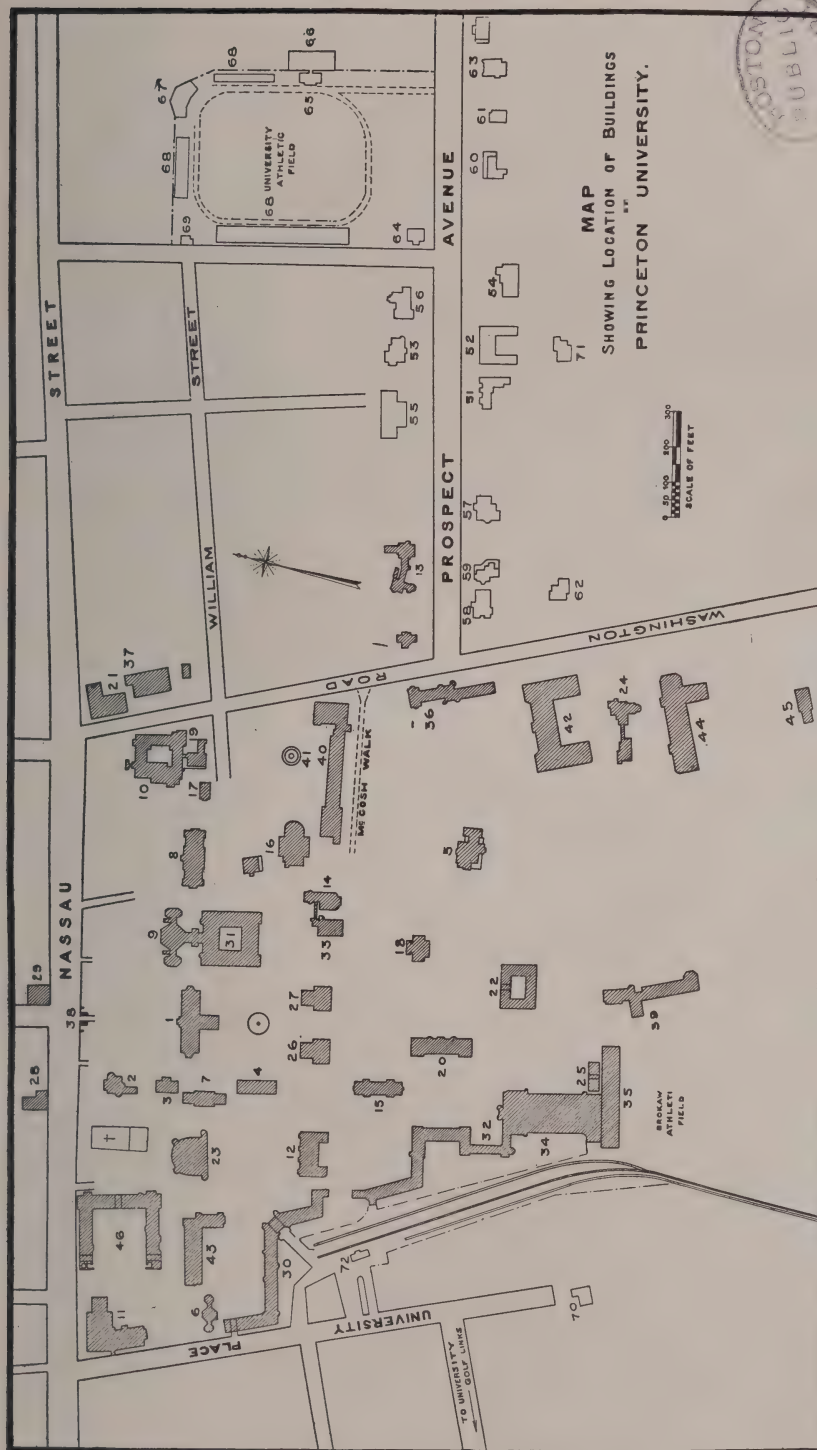
four years younger than "Old South Middle," in New Haven, thirty-six years younger than Massachusetts Hall in Cambridge. But it is architecturally far more interesting than either or both. For it was the earliest college building really designed as such in the English colonies of North America, with the single exception of the college building at Williamsburgh, "at first modeled by Sir Christopher Wren," but destroyed by fire before 1723. Of this building we know nothing, though it would be interesting to have Sir Christopher's idea of a college in Virginia in the time of good Queen Anne. But Massachusetts Hall, in its original estate, and Connecticut Hall were evidently the works of the untutored Colonial carpenter, magnifying the dwelling houses they were in the habit of constructing, with reference only to enlarged "accommodation," and without reference to the expression of the special purpose. Nassau Hall was

so distinct a satisfaction and expression in its very ground plan of the requirements of a college, with its subdivision into chapel, library and recitation rooms that it impressed itself as such upon President Ezra Stiles, of Yale, as he was traveling southward in 1754, when only the foundations were visible, so as to



University Library (1897).

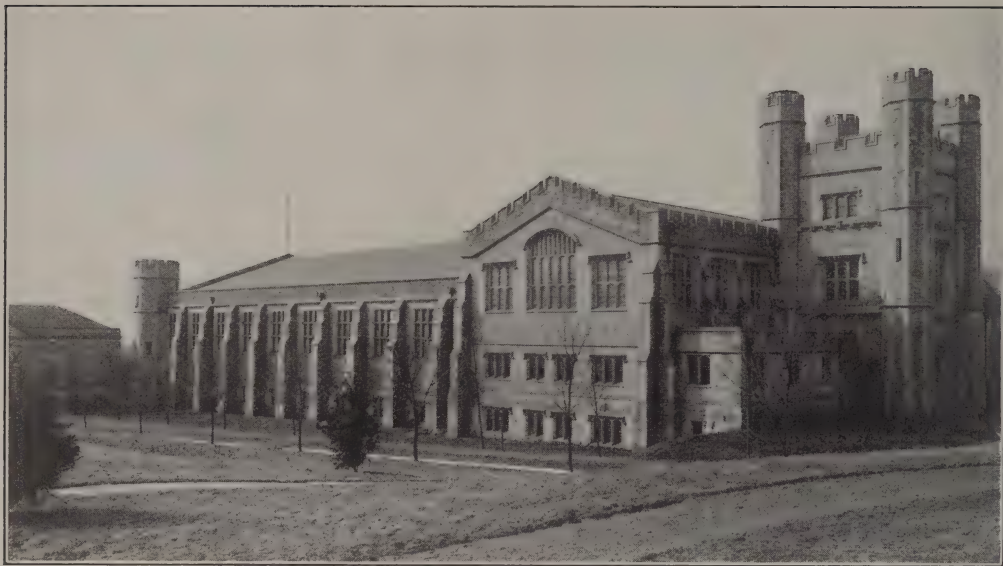
W. A. Potter, Architect.



MAP OF THE BUILDINGS OF PRINCETON UNIVERSITY.

- |                          |      |                          |      |                             |      |                       |
|--------------------------|------|--------------------------|------|-----------------------------|------|-----------------------|
| 1. Nassau Hall           | 1877 | 24. Isabella, McCosh     | 1899 | 55. University Power Plant  | 1903 | 62. Terrace Club      |
| 2. Dean's House          | 1756 | 25. Brokaw Memorial      | 1892 | 56. New Dormitory           | 1904 | 63. Key and Seal Club |
| 3. University Offices    | 1803 | 26. Clio Hall            | 1893 | 57. Ivy Club                | 1904 | 64. Osborn Club House |
| 4. West College          | 1836 | 27. Whig Hall            | 1893 | 58. Tiger Inn               | 1904 | 65. Field House       |
| 5. Prospect              | 1849 | 28. Upper Pyne Building  | 1896 | 59. Fitz Randolph Gateway   | 1906 | 66. Cage              |
| 6. Halsted Observatory   | 1869 | 29. Lower Pyne Building  | 1896 | 60. Cap and Gown Club       | 1906 | 67. Grand Stand       |
| 7. Remond Hall           | 1870 | 30. Blair Hall           | 1897 | 61. Colonial Club           | 1907 | 68. Open Stands       |
| 8. Dickinson Hall        | 1870 | 31. University Library   | 1897 | 62. Elm Club                | 1907 | 69. Thompson Gateway  |
| 9. Chancellor Green      | 1873 | 32. Stanford Little Hall | 1899 | 63. Cannon Club             | 1908 | 70. The Bachelors     |
| 10. John C. Green School | 1873 | 33. Dodge Hall           | 1899 | 64. Campus Club             | 1909 | 71. Bayles Farm       |
| 11. University Hall      | 1873 | 34. Gymnasium            | 1900 | 65. Quadrangle Club         | 1909 | 72. Railroad Station  |
|                          |      |                          |      | 66. Guyot Hall              | 1909 |                       |
|                          |      |                          |      | 67. Vivarium                | 1909 |                       |
|                          |      |                          |      | 68. Laboratory              |      |                       |
|                          |      |                          |      | 69. Mather Sun Dial         |      |                       |
|                          |      |                          |      | 70. McCosh Hall             |      |                       |
|                          |      |                          |      | 71. Patterson Hall          |      |                       |
|                          |      |                          |      | 72. Fitz Randolph Gateway   |      |                       |
|                          |      |                          |      | 73. Laboratory              |      |                       |
|                          |      |                          |      | 74. University Cottage Club |      |                       |
|                          |      |                          |      | 75. University Power Plant  |      |                       |
|                          |      |                          |      | 76. University Engineering  |      |                       |
|                          |      |                          |      | 77. Laboratory              |      |                       |
|                          |      |                          |      | 78. Fitz Randolph Gateway   |      |                       |
|                          |      |                          |      | 79. Cap and Gown Club       |      |                       |
|                          |      |                          |      | 80. Colonial Club           |      |                       |
|                          |      |                          |      | 81. Elm Club                |      |                       |
|                          |      |                          |      | 82. Cannon Club             |      |                       |
|                          |      |                          |      | 83. Campus Club             |      |                       |
|                          |      |                          |      | 84. Quadrangle Club         |      |                       |
|                          |      |                          |      | 85. Charter Club            |      |                       |
|                          |      |                          |      | 86. Tower Club              |      |                       |





THE GYMNASIUM (1903).

Cope &amp; Stewardson, Architects.

induce him to sketch the plans and note the dimensions in his diary. It was the only college building in the colonies really planned as such, excepting St. John's College at Annapolis, projected, it is true, by Governor Bladen in 1744, and long known as "The Governor's Folly," planned by a Scotch architect named Duff, but not completed until 1785, or twenty years later than Nassau Hall.

What the collaboration amounted to of "Dr. Shippen" with "that approved architect, Mr. Robert Smith, of Philadelphia," there is, of course, now no means of determining. But it is a well-established fact that in the Middle Colonies, almost throughout the eighteenth century, a dilettante interest in the fine art of architecture was a branch of classical knowledge much affected as



'79 HALL, CAMPUS FRONT (1904).

B. W. Morris, Jr., Architect.

part of "a liberal education." Thus, Dr. Kearsley, a practicing physician of Philadelphia, was the architect of record of

Independence Hall. It is not very likely that any of these cultivated amateurs could have put their architectural notions



GATE TOWER, '79 HALL, FROM THE CAMPUS.

Christ Church, and Andrew Hamilton, the leader of the Philadelphia bar, of what came afterwards to be known as

in shape through their own drawings. What they probably did was to lend their libraries to the mechanics who actually



did the work, and to give these mechanics the benefit of their suggestions on points of taste. In the next generation, Thomas Jefferson, himself one of the architectural amateurs and critics, complaining that "the genius of architecture seems to have shed its maledictions over this land," was also to complain that "workmen could scarcely be found here capable of drawing an order." But this would not much have mattered to Jefferson if he had been "capable of drawing



Staircase in '79 Hall.

an order" himself. Mr. Glenn Brown, in vindicating the "Dr." Thornton of the next generation after Nassau Hall as the real designer of the Capitol at Washington, has, indeed, established that Dr. Thornton could and did make executable drawings. But we cannot go far wrong in assuming that Robert Smith designed Nassau Hall, and that the services of "Dr. Shippen" were rather suggestive and tentative than even properly consultative.

Whatever its authorship, Nassau Hall was well designed, so well that it has

continued to serve well some considerable part of its original function through this century and a half since its erection. It has also served other public functions more than passably well, since it was the meeting-place of the Continental Congress for some five months (July-November, 1783), in the last stage of the Revolution, and accommodated that migratory body. For its own purposes, it comprised the requisites of a college, having a "hall" which was also a chapel, "with a stage for the use of the students in their public exhibitions," a library, "furnished at present" (1764) "with about 1,200 volumes," and recitation rooms, with dormitory accommodations for almost 150 students, "computing three to a chamber." Which is to say that, a century and a half ago, it united the functions now divided among Marquand, Alexander, McCosh, Dickinson, Whig, Clio, the two libraries and half a dozen dormitories, and accommodated them so well that it was not until the nineteenth century was well begun that Princeton seems to have found the need of further expansion. In the meantime, as may be supposed, the "two hundred acres of woodland" had been pretty well denuded for the benefit of shivering students and instructors, and the field of expansion was open. A building which served its purpose so well and so long must have been well planned. It was also well named. Governor Belcher's modesty stood the young institution in good stead. It was not only that there was no American opposition to the "Protestant Succession" secured by the Revolution of 1688, no longing for the return of the Stuarts in any colony north of the Old Dominion. It was also that the reminder in the name that a prince of Holland had occupied the British throne was the most consolatory consideration that could have been presented to the Dutchmen of New Jersey and the adjoining colonies and conciliated them even under the experience of the outrageous Cornbury, undertaking to establish, now by intimidation and now by trick and device, a church as alien to the general sentiment of the population as ever was the English Church in Ireland.

There are few buildings within the present limits of the United States more venerable than Nassau Hall. And it is all the more fortunate that it should be visibly worthy of its historical distinc-

tion, in scale and design appropriate to the substructure. The ends have a quaint and unsought picturesqueness which is adventitious and accrued long after the completion of the original fab-



PLAN FOR THE DEVELOPMENT OF PRINCETON UNIVERSITY (1906).

Ralph Adams Cram, Supervising Architect.

tion, as, upon the whole, it is. A seemly and dignified edifice, extensive enough to be impressive, and crowned with a feature denoting a public, if not particularly its public purpose, a feature, more-

ric, since they are not indicated on the eighteenth-century prints. They are, in fact, small enclosed stairways, to which subordinate entrances at the ends give access, and they effectively decorate



spaces that would be bald and blank without them. One supposes they must have been added after the fire of 1855. A still more effective, if a more conscious, modern enrichment is the conversion of the old chapel, which projected from the rear of the original building, into a "faculty room," which recalls the chapels of the "classic" colleges of Oxford and Cambridge. The remodeled interior, with its lunetted

and effective, and one foresees that it will increase as the age of Princeton increases and the piety of Princeton is maintained. Opposite the doorway of Nassau Hall is another enrichment, the gateway in grateful memory of Nathaniel Fitz Randolph, the particular benefactor who seems to have been most instrumental in bringing Princeton to accede to the terms of the College of New Jersey, and who, for his own part, gave

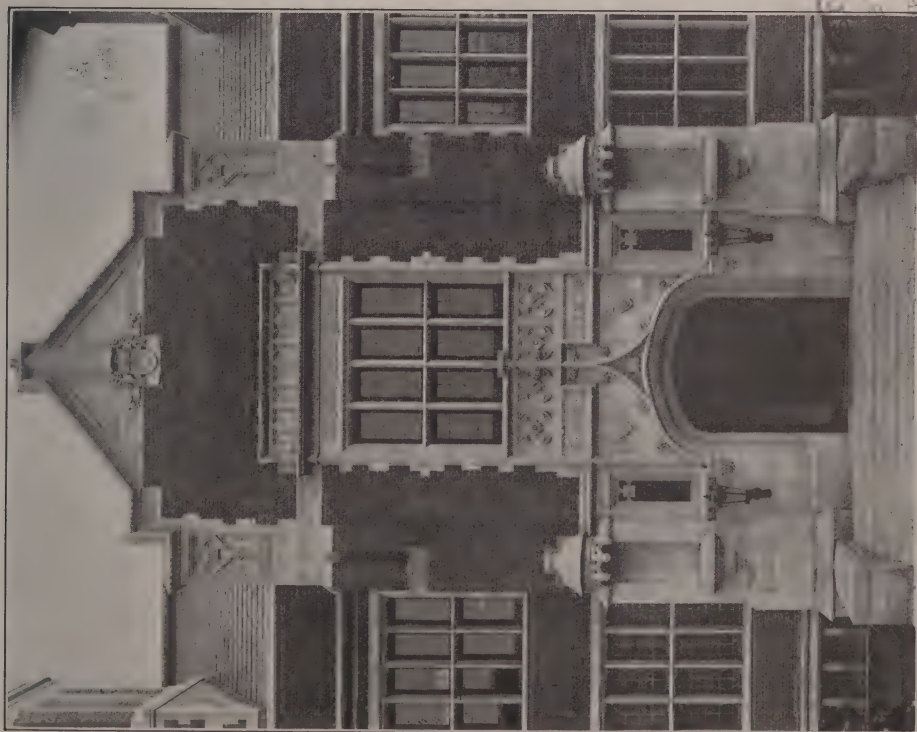


PALMER LABORATORY OF PHYSICS (1908).

Henry J. Hardenbergh, Architect.

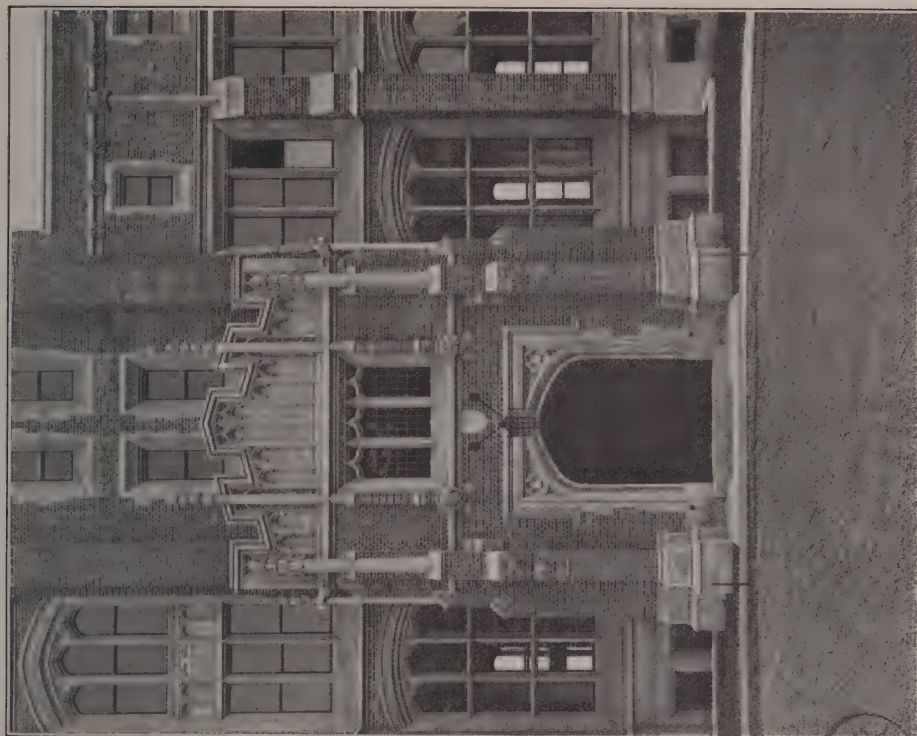
openings and its tall and rich wainscotting of carved oak, is admirably and liberally carried out, and so entirely in keeping with the spirit of the building that one feels at once that this is what "Dr. Shippen and Robert Smith" would have done with the chief showroom of their building, with the two provisos—if they could have afforded it and if they had known how. Already the decoration, by portraiture of Princetonian worthies and benefactors, is interesting

the "four and a half acres on the broad street" upon which Nassau Hall itself stands. The memorial, evidently, is "dedicated particularly" at Nassau Hall, to which it is entirely congruous and appropriate, ignoring, questionably, but possibly quite properly, the complete architectural change which has come over the spirit of Princeton since Nassau Hall constituted the college. And perhaps one might, in any case, have asked for eagles less naturalistic



ENTRANCE TO PALMER HALL.

Henry J. Hardenbergh, Architect.



ENTRANCE TO GUYOT HALL.

Parrish & Schroeder, Architects.



and more conventionalized and architecturalized, the actual birds tending to recall Sheridan's criticism on one of the authors of the addresses at the reopening of the rebuilt Drury Lane that he had produced "a poulterer's description of a phoenix."

The interest of Nassau Hall is thus architectural as well as historical. The interest of the only collegiate building contemporary with it is exclusively historical. This was "the President's House" from 1756 to 1879, when "Prospect," the "villa in the Italian style" of the fifth and sixth decades of the nine-

presidency in February, 1758, and died the following month. But quite his brand of theology continued for some generations to be stamped upon the youth of Princeton. To the outward eye, the house has little distinction, being a mansion of the like of which the New Jersey of its period contained many examples, and still retains some, in various parts of the State.

Apparently, Nassau Hall and the President's House continued to comprise the architecture of the college until within the nineteenth century, when a third building was added (1803), originally



GUYOT HALL (1909).

Parrish & Schroeder, Architects.

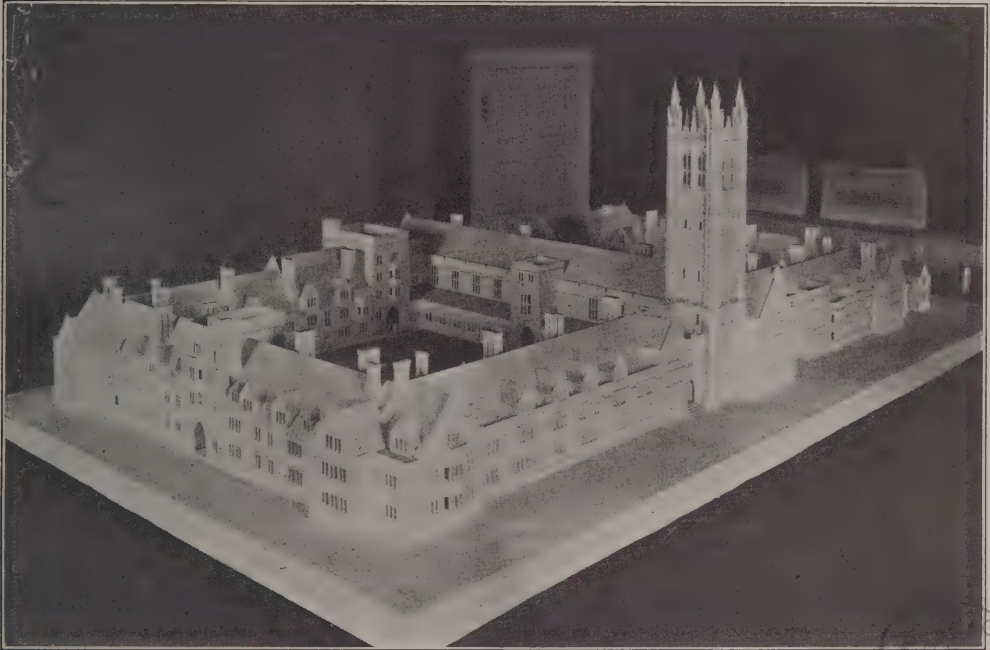
teenth century, was acquired for the president of the university; and the old residence of the presidents became the official abode of the dean of the college. To Princetonians, the old mansion is almost as venerable a relic as Nassau Hall itself. The official residence of Witherspoon, Edwards, Aaron Burr (the elder of the name, not Iscariot) and their successors for a century, could not fail to be so. "Mighty Edwards," by the way, though his name does well enough to point a tag of couplet, had no chance to "stamp his iron heel" on the teaching of Princeton, since he arrived to take the

for recitation rooms, the library, and the two literary and debating societies. Since all these requirements have been accommodated elsewhere, it has become the "university offices." It is quite without architectural interest, but happily, also, without architectural pretension or offensiveness, being quite the kind of thing the unambitious builder would naturally adjoin to Nassau Hall, to which it conforms apparently in material, and certainly in color.

Neither the architectural troubles nor the architectural triumphs of Princeton had yet begun. Indeed, they were not

to begin, the troubles, until after the middle of the century, for "West College," erected in 1836, was still, in effect, the product of the "Colonial" tradition, under which buildings were built when they were needed, and by mechanics who aspired only to meet the necessities of the case, adding such classic garnishing as their employers were willing to pay for. In this case, the classical garnish was omitted, and, indeed, any pretense of architectural embellishment. This "Muse's factory" was a mere parallelo-

attained that one would much prefer the building with its original roof—straight-pitched or gambrel, as the case may have been. The class of which it is a specimen, being simply the satisfaction of practical requirements, if not attractive cannot be repulsive; and, such erections, if they do not help the architecture of the environment in which they appear, do not hinder it. The time may, indeed, come when their room will be more desirable than their company. But in the meantime they may stand without of-



FRESHMAN DORMITORIES, NORTHWEST CORNER OF CAMPUS.  
(From the Architects' Model.)

Frank Miles Day & Bro., Architects.

pipied of rough and honest masonry, with holes for windows where they were needed, and covered with a roof, whether of single or double pitch, into the mind of the designer of which entered no other thoughts than those of shelter and economy. In the actual mansard roof of the building, it is true there were added the purposes of additional accommodation and of architectural effectiveness. But this is obviously of much later date than the building below it, and the architectural purpose is so far from being

fence, and if they are less desirable than real architecture, they are immensely preferable to mock architecture. The baldness of West College loses nothing, in fact, gains much, by its juxtaposition to the much more "architecturesque" Reunion Hall, erected in 1870 to commemorate the reunion of the two "schools" of the Presbyterian Church, although, architecturally, the building is rather a monument of the schism. The "architecturesque" purpose is made manifest not only in the variation of color



which accrues from the quoining of the rough gray walls with red brick, but in the preparation in the substructure for the variations in the treatment of the roof, including the acutely pointed turrets which flank, not successfully, the not more successful two-storied mansard of the central pavilion. On the whole, one much prefers the handiwork of the untutored and unpretending mechanic of 1836.

There was, in fact, no noticeable addi-

numbers it among his happy effusions." 1870-1880 was not a very lucky period for an "instauration." Most of the sensibility and enthusiasm of the architectural profession in this country was in those years directed to the promotion of the Gothic revival, and it was, naturally, among the sensitive and cultivated practitioners of architecture that Princeton, like other American colleges, sought its architects. And it so happened that the eruption of the Gothic revival pretty



EAST FRONT, EAST QUADRANGLE, FRESHMAN DORMITORIES (1909).

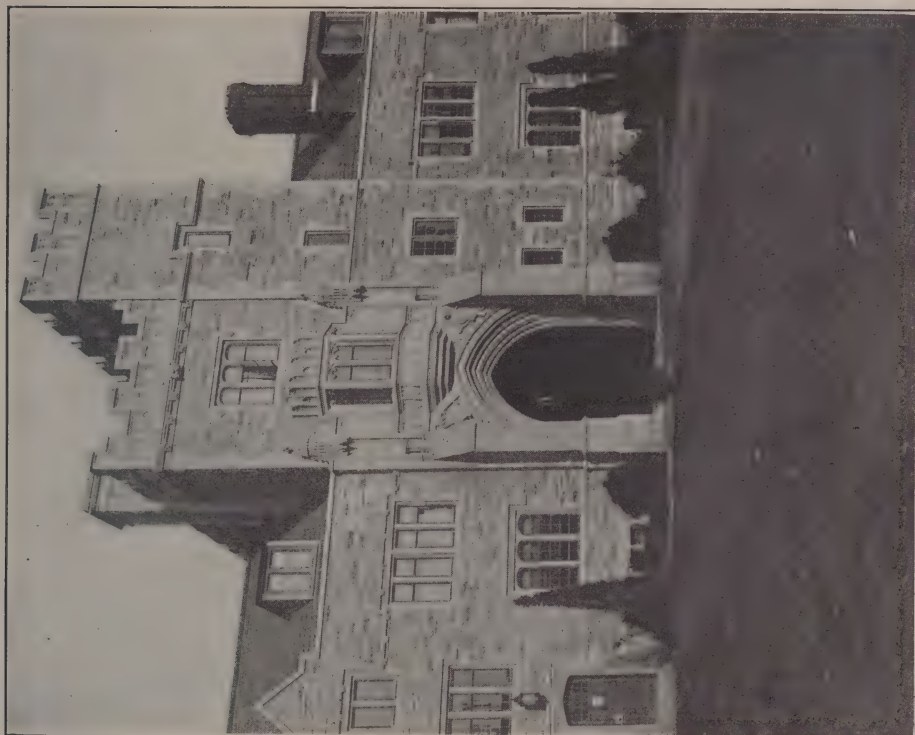
Frank Miles Day & Bro., Architects.

tion to the architecture of Princeton between 1836 and 1870, which is perhaps as well for the architecture. But during the eighth decade of the nineteenth century the additions were many and noteworthy. They began in the previous decade with Mr. Post's "Dickinson Hall" (1870), afterwards altered under the direction of Mr. Lindsey, a work of which one may repeat the conjecture as to its author that "since the ardor of composition is remitted, he no longer

closely synchronized with the addition of "collegebred" young men to the practice of architecture. The mechanic of Colonial times and the amateur and dilettante of those times, who, as we have seen, were apt to divide among themselves the designs of "important works" beyond the scope of the unaided mechanic, had begun to succumb, as to such works, to the educated and lettered architect. Assuredly this change was full of promise for architecture. But it



ORIEL FROM PATTON HALL (1906).  
B. W. Morris, Jr., Architect.



GATE TOWER, CAMPBELL HALL (1909).  
Cram, Goodhue & Ferguson, Architects.



had its drawbacks. The promising young architects of that day had mostly fallen under the spell of Ruskin's eloquence, and had taken to architecture on what one may call literary grounds. They had, naturally, taken to Gothic. Now, Gothic architecture is a noun of multitude, signifying many. But the "Victorian Gothic," promoted by Ruskin's preachments, laid very special stress, in general, on the elicitation of "individuality" in the designer, on individuality even to the exclusion of comity, of uniformity.

architecture as something more and other than a means of livelihood, to enforce Emerson's inculcation: "Trust thyself! Every heart vibrates to that iron string"; whereas, as a matter of fact, when you see the results of an architect of insufficient training and discipline "trusting himself," you have, rather, an unregenerate longing to see him vibrating to a hempen string. It were a safer inculcation, at least in so social and civic an art as architecture; that after you have undergone your academic discipline, and



THE IVY CLUB (1897).

Cope & Stewardson, Architects.

And in particular, it laid stress on the very individualistic Gothic of north Italy, which was distinguished, among other things, by the free external use of color. These were two rather dangerous inculcations. They were not altogether Ruskin's, since he distinctly inculcated the necessity of the adoption of a particular mode or phase of historical Gothic as a starting-point for future work. But the net result was, upon the whole, mischievous. It tended, in its effect upon young men who had been inspired to adopt

learned to conform, whatever individuality or originality you possess will come out in spite of you. Will come out, that is to say, unless the art you undertake is altogether a matter of convention and tradition. And here is, in fact, the meaning and value, and the perennial utility of mediæval architecture, that it is not and never was an architecture of mere convention and tradition, like the hieratic architecture of Egypt or like the Roman classic, from Vitruvius to this day. Throughout the thousand years through

which it held sway, and remained alive, under the names of Romanesque or of Gothic, through all its progresses and all its retrogressions, it was an architecture of craftsmanship and not of formula; it was founded on the nature of things, and not on conventional assumptions.

All the same, too much individuality, too little conformity, was no doubt the defect of the architecture of Princeton for that fateful decade. Her new buildings were all in highly "Victorian" Gothic. Manifestly, they all stood in

Cram calls "the Gothic quest" than the Gothic find, rather a departure than an arrival. The ambitious young architects were, in fact, so many Japhets in search of a father, and some of the orphaned attempts at filiation were pathetic, while some were comic. And yet there was much cleverness, and there remains to-day much interest in those sporadic and imperfectly related buildings. I have elsewhere spoken of the late William A. Potter's contributions to what is, unfortunately, an assemblage and not an



THE CAP AND GOWN CLUB (1908).

Raleigh C. Gildersleeve, Architect.

need of being trained and brought into subjection by some necessity of conformity. The inculcated necessity of "individuality" was reinforced by the natural desire of "donors" to have their donations distinguished, and by the natural reluctance of collegiate bodies to restrain the beneficence of benefactors by looking gift-horses in the mouth. Gothic is so comprehensive a term, and "Victorian Gothic," in particular, so free and "eclectic," that it is no wonder that the most progressive and interesting works of that period suggested rather what Mr.

ensemble. The first of them, the Chancellor Green Library (1873) which was a restudy of its architect's elder brother's earlier restudy of the baptistry of Pisa, is evidently "Victorian" and Ruskinian, by reason of its polychromy and its variety of design. But one would by no means like to see it go, even from its adjunction to the sober monochrome of the larger building of a quarter of a century later, which its author's ripper judgment justly concluded to be more to the purpose of a university library. And certainly one would not wish to see



the School of Science demolished in favor of any imaginable building for which its room might be desired. One might, indeed, be willing to spare the gabled front, of which the fenestration is by no means so rhythmical or so "inevitable" as to impose itself upon his consciousness. But he would be very unwilling to lose that saddle-backed tower, so clearly foretold from the bottom, of which the massive expanse of

either imposed on the several architects of the campus or arrived at by agreement among themselves. But evidently that failure in comity cannot be imputed to any one of the architects in particular who ought to have been collaborating, but who were, in fact, competing. One of them, Mr. Robertson, was Mr. Potter's partner of those years, though I believe that all the works of the partners at Princeton were individual and



THE COLONIAL CLUB (1908).

Gibson & Stewart, Architect.

the base is so ingeniously and happily diminished into the attenuation of the tower by its successive offsets. That remains an ornament to the campus of Princeton, a highly picturesque object, one of the worthy monuments of the Gothic revival in America, and an indisputable work of architecture.

Doubtless the School of Science suffers, as do all the Princetonian buildings of its period, from the want of any "consensus" about style and material,

"respective," and not joint. Consider what the condition then was of the campus of Princeton, and how little, or rather nothing, there was to which to conform, "compare it with the bettering of the time," and I think you will find Mr. Robertson's "Witherspoon Hall" becomes not only an interesting, but almost an exemplary performance. It is, no doubt, highly unconformable. There is, no doubt, a superfluity of "features" which do not always compose a countenance,

and one may reasonably wish for a good deal less of variety, even at the risk of the monotony which the designer was evidently anxious to avoid, in particular for a much less tormented top and skyline. But the animation is not without dignity, the materials are well chosen and combined, and the treatment throughout is so straightforward, structural and expressive that one would not willingly miss Witherspoon altogether from the campus. Mr. Robertson's other contri-

Hall was another Gothic addition of that period, but not so "Victorian," being monochromatic and seemingly rather more tame than wild of aspect, though in fact, it has since been remodeled partly out of recognition to conform to its later neighbor, Dodge Hall. Edwards Hall is also a studiously quiet work. Nobody will pretend that it is pretty, but nobody can deny that it is decent nor that it attains the praise of inoffensiveness, beyond which it scarcely aspires;



THE COTTAGE CLUB (1906).

McKim, Mead & White, Architects.

bution to the architecture of the campus it seems that we are shortly to miss, in the interest of the extension to the corner of the double quadrangle of which Campbell Hall and Sage Hall form the existing half. This demolition will hardly entail any regret, even on the part of the author, since the architectural fitness of what is now "University Hall" was entirely related to its original purpose of a university hotel, and vanished when it was abandoned for that purpose, now many years ago. Murray

even that it has character, the character of the "grim predestinarian," whose name it bears. The prevalence of the revival ended with Marquand Chapel. The author's name guarantees that this is an "individual" and unconventional phase of Gothic, and there may have presided over the design, likewise, a sense of the necessity that the chapel of Princeton should not suggest an Episcopalian place of worship. This latter condition was, at any rate, observed both inside and



out. Interiorly, the chapel is distinctly and exclusively enough a "meeting-house," an auditorium with a tribune, and with some interesting detail and decoration. Outwardly, it is a sprightly and aspiring edifice, of devout, if not of "ecclesiastical," connotations, and fitly enough concludes the list of examples of architectural dissent.

There was no very notable or "architecturesque" addition to the architecture

it some very crude and clumsy works. And yet Alexander Hall, the single specimen of Richardsonian Romanesque at Princeton, is by no means to be regretted. It is a design upon the whole quite worthy of the robust master himself, though, in fact, suggested by the very incongruous example bestowed upon Yale by Bruce Price in Osborn Hall, some three years before, upon which the Princeton building is a very



HOUSES IN "PRECEPTORIA" (1909).

Prof. Walter B. Harris, Architect.

of Princeton between 1881, the year of the Marquand Chapel, and 1892, the year of Alexander Hall. This, again, is very likely as well, since any additions that had been made in that decade would probably have been made in the Richardsonian Romanesque, which, at the best, would have introduced another refractory and incongruous element into the architecture of the university, and at the worst would have imposed upon

distinct advance. The amphitheatrical sweep which is quite meaningless at New Haven gains point and relevancy at Princeton in becoming the entrance to a rounded auditorium. The opposite front, indeed, being flat and gabled, entails an awkwardness, by reason of its width and "lowth," and of the sprawling of its gable, which is the chief defect of the design. It seems that it would have been better to cover this wall with a

hipped than with a gabled roof, although the substitution would have entailed some trying problems of both exterior and interior treatment. For all that, Alexander is one of the architectural possessions of Princeton, a vigorous, consistent and refined piece of work, carried out, without and within, with an amplitude of means which the artistic skill employed upon them prevents at any point from degenerating into mere ostentation or sumptuosity.

they could have commanded habitations of their own, would no doubt have commanded them in the prevailing Georgian manner. They could hardly have ordered them in so "correct" a classic as Mr. Page Brown's twin temples, for the "American Whig Society," among whose early debaters were James Madison and Philip Freneau, was organized in 1769, and the Cliosophic Society, of whose early athletes were Oliver Ellsworth and Aaron Burr the younger.



UPPER PYNE (1896).

Raleigh C. Gildersleeve, Architect.

An entire college in this manner would not lack interest!

It is odd that the very next essay in the architecture of Princeton should have been a reversion to "pure classic." It is a far cry backward from Provençal Romanesque, through what Freeman calls "the classical or transitional Roman" to the Hellenic source. The societies which the temples house date back almost to Nassau Hall itself, and, if

Here is another anomaly that one cannot regret. It often seems that the reproducer of the temple is abdicating his function as a designer. But the architect of these little prostyle Ionic temples, unpretending as they are, brought something of his own. The visible bonding and implication of the masonry in marble are modern and individual glosses, and have the effect of giving something of interest and of organiza-



tion to the otherwise blank walls of the cella, which, in the originals, by hypothesis, have none of those qualities.

But the "instauration" of the architecture of Princeton, the movement which makes the place so interesting that it is at present about the most attractive architectural Mecca in the United States, was begun only thirteen years ago, when the University Library and Blair Hall were concurrently under construction.

there are so very few college yards that show any recognition of them. That they are recognized now at Princeton gives that institution a distinction unique among the elders. When a billionaire presents an institution with a *tabula rasa*, and the billionaire or the institution says to the architect, "Write," it is his own fault or his own privation if he does not write something worth reading. But in the older institutions there is so



LOWER PYNE (1897).

Raleigh C. Gildersleeve, Architect.

That the architecture of a university, or even of a college, should have something of uniformity and consistency, not only from year to year, but from generation to generation, that buildings in sight of one another should be designed with reference to one another—these are propositions sufficiently obvious, one would say. There is not a "college yard" or campus in the country, of half a century's duration, that does not enforce them upon any open sense. And yet

very much in the way, so many practical obstructions, so many sentimental obstructions, to the realization of anything that deserves to be called an ideal. The historic sentiment is as worthy as the artistic sentiment. The *res gestae* are not and by right ought not to be ignorable. An ancient institution cannot if it would, and should not if it could, regard its possession as a "clean slate," as if it were a brand new foundation in Illinois or California or Texas! Where,



THE PRINCETON BANK (1896).

William E. Stone, Architect.

in fact, can you find more architectural incongruities than in the secular architectural progresses and retrogressions of Oxford or Cambridge? And yet, how these incongruities are overruled and blended into a single, harmonious and

charming composite image! The architectural enthusiast is in danger of becoming an historical vandal. He who demands his "clean sweep" is prone to forget that his own cherished new fashion may yet become an old fashion,



depending for its preservation upon the same appeal to the historic sentiment which he for his part ignores or rejects. He forgets his Browning, "Three and twenty leaders of revolutions have I seen"! What was up to the standard of its own time is worth preserving at least as an "historical document." Of course, this does not protect mere incompetency, mere illiteracy, mere crudity. Of course, it does not forbid the considerate attempt to convert an architectural chaos

formance. An architect may be trusted to treat his own youthful indiscretions with all the tenderness of which the case admits, and the newer, soberer, monochromatic and scholastic Gothic exhibits no contempt for the older, more vivacious, polychromatic and "eclectic." The practical "scheme" of libraries had, in the interval, changed, but the old library is still found capable of excellent service as a reading-room, and is kept as well in countenance as may be as a work



TRINITY CHURCH (1858).

Richard M. Upjohn, Architect.

into an architectural cosmos. Of course, it does not prevent the adoption, even the imposition, of a mode of building which has for generations been recognized as the most appropriate to the particular purpose, which "has pleased many and pleased long." And, in fact, it is precisely this process which gives Princeton its unique architectural interest. Mr. Potter's adjunction of the Pyne University Library to his own Chancellor Green Library of a quarter of a century earlier is an exemplary per-

formance, the ground tint of the old being in effect the monochrome of the new, while the connection between the two is of an excellently reconciling tendency. A dignified and appropriate work.

But undoubtedly it was Blair Hall that fixed the style of the newer Princeton. Nothing could be happier than the barrier of building that screens the campus from the railroad. And when we have climbed the broad stairway and passed through the groined arch of the

gateway, we are unmistakably in a cloistral seclusion:

The world and wars behind us stop.

The confrontation of a college with a railroad is commonly an architectural as well as a practical difficulty. Here, by a stroke of genius, it becomes an architectural opportunity. And the subsequent works of the architects of Blair Hall, still skirting the railroad, the Stafford Little Hall and the Gymnasium, continue the scarped and bastioned rampart against the world without. Conformably to which function one finds or fancies a sterner and grimmer treatment of the outer than of the inner walls of the dormitories, according to Ruskin's praise of the domestic building at Verona, with "its richest work given to the windows that look out on the narrowest streets and most silent gardens." Nothing could be more delightful, nothing more "collegiate," than the aspect of these edifices. One feels, in looking at them, how pedantic, how puerile it would be, in letting the charm of them sink into him, to fall back on his logic and point out the irrationality, for example, of a crenellated parapet at the base of a sharply sloping roof. The things have so perfectly that blend of the monastic and the domestic which makes the "collegiate" character that, from the moment they were exhibited, the style of Princeton was fixed as Tudor Gothic. Princeton would have had to be very insensible to reject so plain a "leading," as insensible, shall we say, as Yale showed herself when she reverted to the classic of the bicentennial buildings after the object-lessons of Vanderbilt and Phelps? It would have been a sinning against a flood of light.

Happily for whoever visits Princeton, that insensibility was not hers. The indication was at once accepted and imposed. The next building after these admirable buildings of Messrs. Cope & Stewardson was Dodge Hall, adjoining the twenty-year-old Murray, which was subjected to a considerable remodeling to modernize, or, more properly, to antiquate it, conforming to it in material and treatment, as well as to the Marquand

Chapel at one side and to the new library opposite. One has a kindness for that fat, dumpy, comfortable tower, and even for the mansarded edifice which it tends to dignify. The next was the "'79 Hall," which is one of the most brilliant successes of the new Princeton and tends, quite as strongly as their own work, to vindicate the choice and imposition of a style by Messrs. Cope & Stewardson. The departure from their choice of material in favor of red brick and light stone supplies another phase of the delightful "collegiate" manner, and, one supposes, imposes itself as the material for the east side of the campus, as the monochrome of light, rough stone for the west. It goes far to vindicate its style as the only domestic manner. Anthony Trollope warms into unwonted enthusiasm in his admiration for the Tudor building. Hear him:

It must be equally clear that it looks out on a trim mown lawn, through three quadrangular windows with stone mullions, each window divided into a larger portion at the bottom and a smaller portion at the top, and each portion again divided into five by perpendicular stone supporters. There may be windows which give a better light than such as these, and it may be, as my utilitarian friend observes, that the giving of light is the desired object of a window. I will not argue the point with him. Indeed, I cannot. But I shall not the less die in the assured conviction that no sort or description of window is capable of imparting half so much happiness to mankind as that which had been adopted at Ullathorne Court. "What, not an oriel?" says Miss Diana de Middleage? No, Miss Diana, not even an oriel, beautiful as is an oriel window. It has not about it so perfect a feeling of quiet English homely comfort. Let oriel windows grace a college or the half-public mansion of a potent peer; but for the sitting-room of quiet country ladies, of ordinary homely folk, nothing can equal the square mullioned windows of the Tudor architects.

The architects of the new Princeton have made full and excellent use of the novelist's permission to use oriels "for a college." And, indeed, one does not see the point of his prohibition of them for domestic purposes. The oriels of the gateway towers of '79 would doubtless be pretentious for a modest mansion. But who will venture to say that the north end of '79, with its oriel, is not as truly and even more delightfully domestic than the south end, from which that feature is omitted? It is true that the prescription of five-light windows is dis-



obeyed at Princeton in favor of two or three or four, and that the injunction of an unequal vertical division is hardly attended to at all, and one can perceive no disastrous results from the omission. On the other hand, the small pane is accepted as obligatory. Mr. Seddon tells us of an enthusiastic English Gothic revivalist, in the high and palmy days of the Victorian revival, who laid it down that "plate glass was an emanation from the jaws of hell." These architects would, apparently, agree with him, and they are quite above the subterfuge of a transom, above which there may be artistic sashwork, while below the window is abandoned to the powers of darkness, which is to say, of light. Meanwhile, the material of this delightful building is more or less adhered to in the newer works at that end of the campus, while the style is by no means so strictly followed. And, indeed, there is no good reason why a building of huge rooms which must be flooded with light should follow the only excellent way for studies and dormitories. In architecture, even in Gothic, are many mansions. One need not quarrel with the architect of Palmer Hall because his Gothic is certainly not Tudor, and is hardly classifiable as English, nor with the architect of Guyot for the huge segment-headed windows which a Tudor architect would assuredly have viewed with apprehension and alarm. "Form follows function," and a general conformity is all one is justified in requiring. Nay, over on the other side of the campus, where the buildings, being all dormitories, have the same conditions under which the Tudor colleges were built, and where a stricter conformity may be exacted, one finds the conformity rather of the spirit than of the letter. That beautiful vaulted archway which gives access to Campbell Hall seems to belong to a much earlier and sterner stage of the development of Gothic than the picturesque degeneration of Tudor times. And surely none the worse for that!

It was not until after the building of "79," in fact, not until long after the sesquicentennial year, which marked the change of title from the College of New

Jersey to Princeton University, that the authorities of the university took a step more important to its future architectural development than had been the erection of even the best of its single buildings. This was the determination to adopt a plan for that development which had gone on in a random and planless way for a century and a half, though one is bound to say with less grievous results than such a want of system deserved, or than had been incurred elsewhere. The appointment followed of Mr. Ralph Adams Cram, fresh from his success in the similar undertaking at West Point, of which the results are only now beginning to be disclosed. The occupation of the eastern and western fringes of the campus had already been determined, upon lines which enlisted the complete sympathy of the new supervising architect, and which his appointment insured would be maintained. The plan concerned the completion of these fringes, but even more the treatment of the campus they enclosed by providing axes in reference to which all future buildings should be placed and planned. It will be seen that the plan provides for an expansion far beyond the probabilities of the present or the next generation, while the central avenues, from Nassau Hall to Carnegie Lake on one axis, from the railroad to Washington Street on the other, almost automatically fix future building, while the more turbulent relics of past building may be mitigated by plantation, by "ampeloptification," by alteration, by remodeling, with little or perhaps no necessity of resort to the heroic remedy of demolition. The only definitely doomed building, I believe, is University Hall, and this, as we have seen, has long outlived the purpose of its creation. And surely nobody will grudge the demolition, seeing it is in behalf of the filling out of the northwest corner of the campus with the double quadrangle of the freshman dormitories, with its stately and serene tower, towards the completion of which an impressive beginning has been made through the beneficence of Mrs. Russell Sage. Mr. Cram has modestly reserved at this corner for his

own firm only the filling out of the quadrangle of which the northern wing of Blair Hall forms the western side. (A larger opportunity will befall them in the Graduate College on the other side of the campus.) This new work is worthy of the old, worthy of the "mellow brickwork" across the campus, worthy of any place of education in the world. Comparisons were odious in an associated work in which every associate has so loyally subdued himself to what he worked in. It is really not decent to treat a collaboration as though it were a competition. And it were ungrateful, as well as ungracious, to raise petty cavils with work which gives us so much pleasure. One may wish, to be sure, that the architect of Palmer Hall had seen his way to give more interest to his stark and bald gables, that the designer of Guyot had been more deferent in his choice of the tint of his bricks and his mortar, that the architect of Patton had considerably "smoothed his wrinkled front," and the architect of McCosh had considerably wrinkled his smooth expanses. But the whole thing is so delightful. I spoke, a while ago, of the indecency of considering too curiously, from the point of view of logic, of works the appreciation of which is so much a question of taste. It is so much a question of taste that one finds himself continually fain to relieve his spirit with gustatory adjectives. How "sweet!" How "delicious!" And one finds his keenest pleasure in the "bits," i. e., "bites." What is done of the new dormitories is so full of nuances that one finds it all nuance, so nice is the sensibility which prevails everywhere. And it all has such a home-grown, such a vernacular air. Consider, for example, in the newest dormitory, the only one built of the local stone of Princeton, a stone with greater varieties of tint than those heretofore employed, the effect of the careful selection of stones for the corners according to sizes and shapes and color, so that these angles, in what is nearly a monochrome of rough stone, have the effect of quoining. And it is from this point of view that one may suggest a mild regret that the architects of these later buildings did not see their

way to protrude chimneys of rough stone like the walls, instead of trim red brickwork, above their green slate roofs, roofs covered, in the latest and unfinished building, with slates so rough and so thick that they seem to have been flagged rather than slated. The change of material in the chimneys tends precisely to dispel the delightful illusion that this is in fact native and home-grown architecture, that it is the work of an inspired stonemason, working in the manner of the builders of the prototypes of these colleges, gathering his material near at hand and fitting it together to his untutored or his inherited best, instead of the modern architect, importing his neat brickwork from afar. But, upon the whole, it is time lost to talk about this work in detail. The only way to praise such work is to show it. The lover of architecture may be commended, in the first place, to go to Princeton, and if he really cannot do that, to consider the photographs which make one regret to find them so inadequate a showing of what is really doing at Princeton.

The interest of Princeton is by no means confined to the campus. Eastward stretches a long row of "upper-class clubs," which take the place of the "fraternities" that for generations have been barred from Princeton, and which are reported to be giving the faculty nearly equal occasion for solicitude. But the club houses are without question objects of interest to the tourist of the university and the town. They are of many architectural modes, congruous or incongruous with one or another mode of the architecture of the university, of the half-timbered English cottage or English inn like the Tiger Inn, freely Gothic like the Ivy and the Cap and Gown, loosely Georgian like the Cottage, strictly Colonial like the Colonial, but uniformly showing the employment of cultivated architects, and amusing in their diversity instead of annoying, as they would be if they were within the sacred enclosure and pretended to form part of the architecture of an institution which was not altogether and promiscuously "elective," but showed signs of having a mind and a purpose of its own.

On the other hand, "Broadmead,"



which has been promptly nicknamed "Preceptorium," in allusion to its chief expected use, the latest of Mr. Pyne's benefactions to Princeton, seems rather Procrustean in comparison. It has all been done by one architect, and, consequently, consists in rather restricted variations upon one or two themes, or motives. But it is all skillfully and discreetly done, and gives one the notion of a real "university settlement," a highly habitable and eligible place of abode.

It would not be fair to conclude without saying something of Princeton outside of the university. The common street building of the town is like the older street building of many a long-settled inland village. Only, the subjection of the village to the college or the commercial stagnancy of the village has kept it from being commercialized into outrageousness and vulgarity. Even if there were nothing artistic in its building, Nassau Street would impress you, in contrast with other "main streets" of which you are aware, with the conviction that mere dullness and humdrum may rise to the level of artistic qualities. It is a common complaint of villages which aspire to the rank of "resorts" that the attractiveness of their domestic building is apt to be more than offset by the repulsiveness of their commercial building. The complaint does not lie against Princeton, did not lie, even before there were any positively attractive business buildings, as now there are. None of Mr. Pyne's benefactions to Princeton has been more exemplary or ought to be more fruitful than the two business

buildings which bear his name. Upper and Lower Pyne, with their actual shops on the ground floor, and their undisguisedly commercial occupancy, most gratefully recall the best street architecture of Chester or Shrewsbury. The architect has lavished upon them a careful and affectionate study which is visible in every detail. The wood-carving, for example, on the front of Upper Pyne, with that very charming driveway into the "mews," with the quaint sundial over, is quite worthy of the best historic examples. And the infection of architecture has spread to the local bank. As we have seen, Princeton is not Dutch as other settlements in "the Jerseys" are Dutch, nor was there any very apparent reason why the architect of its bank should have resorted to a Dutch motive. All the same, the visitor to Princeton has reason to rejoice that he did so. For of the many buildings which have been suggested by that famous and fantastic old sixteenth century meat market of Haarlem, none is more successful or seems more in place than this. And in Trinity Church Princeton has a possession, half a century of age, of which the architectural merit and the quaint accessories give excellent expression to the genius loci. It is good news that the enlargement of Mr. Upjohn's work has been entrusted to Mr. Cram. Princeton already is, and still more Princeton is evidently becoming, in an architectural sense, the most successful and interesting of American examples of a university town.

*Montgomery Schuyler.*

---

NOTE.—Fuller illustration of the work at Princeton of the late William Appleton Potter is given in the *Architectural Record* for September, 1909.

## Building a Church for a Small Congregation

The building of a small church is a serious matter, involving the need of more care and thought than almost any other building, because it must be utilitarian in plan, monumental in design, and yet, as a rule, inexpensive. In the cities the generosity of the rich may be depended upon to provide churches for the poor, but in the country, where there are few men of real wealth, as a rule, the problem of erecting a new church building that will satisfy all the requirements demanded by a public building that will be a worthy addition to the community, while still keeping within the limited means at hand, becomes a complex one. It will be agreed that the building must have a monumental character, and that presupposes permanent materials for its construction; and that if it is to worthily express the faith of its congregation in their religion, it must be the very best in design and workmanship that they can afford, and should stand as an inspiration and invitation to worship. The building committee charged with the duty of erecting a new church will doubtless have a full understanding of their responsibility to the community and to their parish, and yet it is possible that they may not have had previous experience in building operations, and that they will find many difficulties before them. It is the purpose of this article to take up some of these difficulties and discuss them.

In erecting a business building, it is taken for granted that an investment is being made that must pay dividends; and the building of a church should not be an exception to this. Money should be so spent as to make the maintenance and repairs cost as little as possible, although the first cost may seem greater than necessary to the thoughtless; the practical considerations of site, seating accommodation and planning, must be so worked out that the building may serve its greatest usefulness and pay good dividends in

the shape of benefits conferred in the community and on members of the parish erecting it. In addition, every effort should be made to have the appearance and construction of the building such that it will last for many years, centuries even, and not be considered by the coming generations as an archaic and useless building, to be replaced as soon as funds can be raised for the purpose. Not long ago I was called in consultation by a clergyman in New England, whose people were discontented with their church and demanded alterations or even rebuilding. I found a church forty years old, in perfect repair and of ample size for the congregation, but of sadly ugly design and most inconvenient plan. The building was torn down and a new one, of better design and plan, erected at an expenditure that would have been entirely unnecessary if the original committee had not considered that the local mason could put up a building that was good enough for anybody, without the impertinent intrusion of a city architect.

The first matter discussed in committee will probably be that of site. This is an extremely important matter, and one not to be lightly decided. The site must be of ample size for the needs of the new building, and perhaps of future dependent buildings; it must be centrally located, so that both the present and future population may find it accessible; yet it should not be so near to trolley lines as to be noisy, if it can be helped. The cost of the lot, in proportion to the proposed cost of the building, must be thought of; and if lots are offered as gifts, the old proverb must be disregarded, and the teeth of the gift-horse most carefully inspected. Grades must be considered; a flat lot is certainly the cheapest to build on, but often a gift-lot is most irregular in surface. If these irregularities can be taken care of by skillful planning, they may be most use-



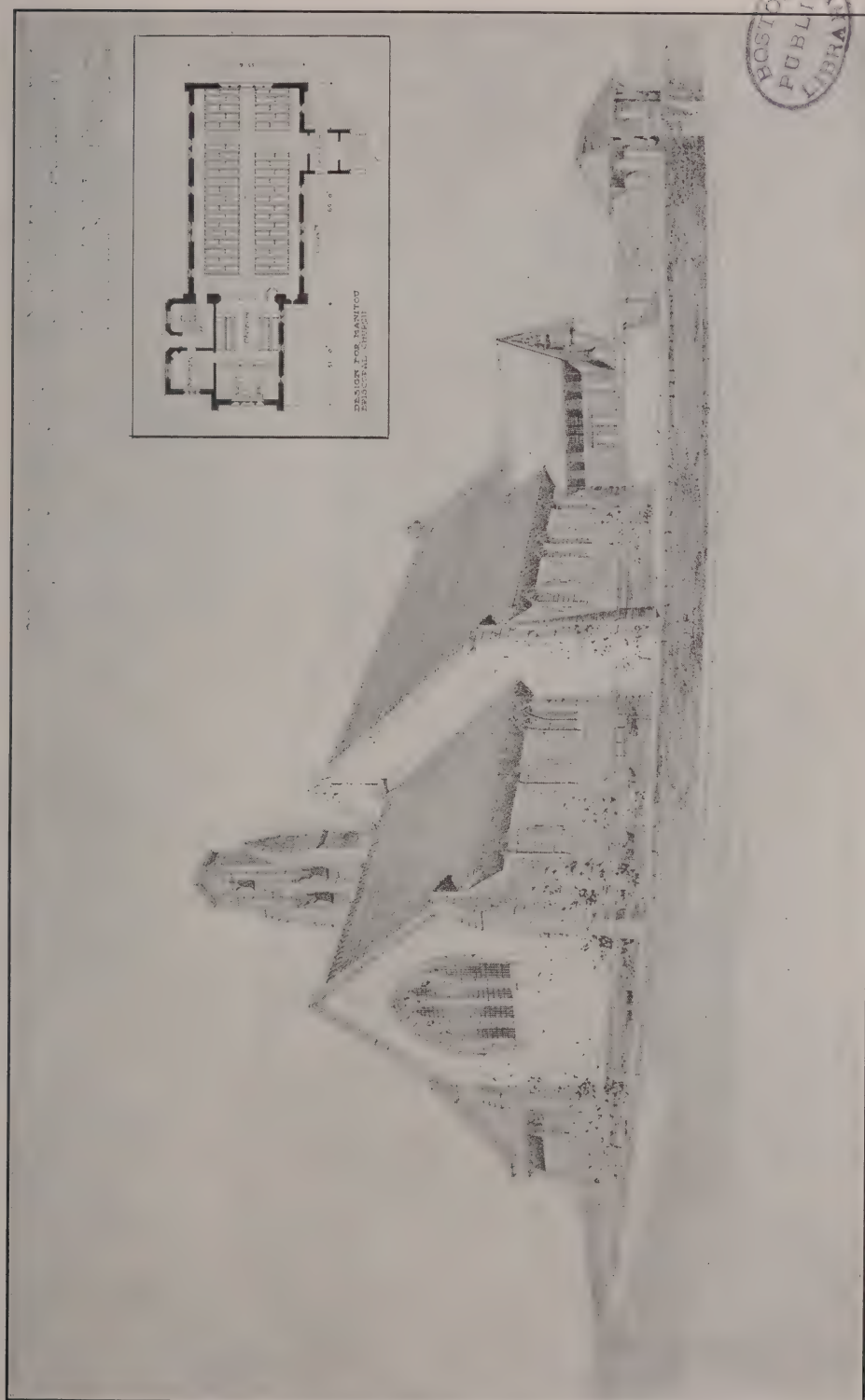
ful, not only from the artist's standpoint, but from the purely practical one of convenience of access to different levels of the building. Mr. MacLaren's church at Manitou (Fig. 1) illustrates this, advantage being taken of the falling grade towards the chancel end for the placing of a large choir-room under the chancel, where it is excellently lighted, the lot otherwise being too small for placing it on the main floor level without sacrificing valuable seating space.

On the other hand, an irregular lot may be picturesque, but costly to build on. Mr. Mackintosh's church at Twilight Park illustrates this (Fig. 2), where a most charming approach to the church is managed, but probably at a considerable expense for terracing, steps and railings. In the case of the convent chapel at Peekskill, from our own office (Fig. 3), the upper church, intended for the high services attended by the school children as well as the sisters, is reached from ground level at the convent end, while the lower chapel, used for smaller services, and as a mortuary chapel, is on ground level at the chancel end, the space under the nave being used for heating apparatus. In this case, excavation into solid rock would have been required for a cellar if the lot had been level; so the apparent extravagance of high walls was, after all, an economy. Sometimes, however, lots are offered which seem perfectly available, despite their irregularities, until the plan is worked out in more detail under professional auspices, when it may be discovered that some matter of foundation, water supply or drainage may make an apparently desirable lot a very costly one to build upon.

The size of the lot has more to do with its distance from transit lines than is generally considered. A church on a large lot, with perhaps dependent buildings thereon, but with plenty of trees and lawn, may be much further from transit lines without being "hidden under a bushel" than if it were enclosed by houses and therefore hardly known to the public. But a mean must be preserved, for no church can flourish if hidden away in a back street, where few

but its old members know of its existence. The message of the Church is to all the world, and not only to its own members; therefore it should be where all the world can see and readily reach it. A good site is often more valuable to parochial prosperity than a good preacher. Local traditions affect the site. In many New England towns all the churches are placed on the village green, without reference to where their followings live. In Waterbury, Connecticut, for example, two Episcopal churches, both in a flourishing condition, and both of respectable age, are within a few hundred feet of one another. In other towns this would be considered a serious handicap, and the churches are carefully placed so that they may not overlap. In the old English system, parochial bounds were as distinctly marked as are school and election districts today.

The size of the lot ought to be better proportioned to the design of the church than is usually the case. This seems like a reversal of affairs, for, of course, the design ought to be made to suit the requirements of site; but sometimes the lot is so cramped as to seriously handicap the architect who wishes to design not only to suit the lot, but the community as well. In a city that is solidly built up a church can be placed very compactly on a lot, filling it practically completely; but if this is done in a village, where all the other buildings are surrounded by ample space, the result is most unfortunate. In country and town churches the cost of the lot is usually so small a proportion of the total expenditure that there is little reason for cramping the building. The chief charm of the English village churches lies in their lovely surroundings (Fig. 4), and our own New England meeting houses lose a great part of their charm when their once ample grounds are built up into solid city blocks, crowding the old church on both sides. So, by all means, let the committee plan for ample grounds. The church will probably cover more of it than they had anticipated, anyway. Twenty-five feet seems a great deal of ground when one is buying a city lot by the front foot;



Manitou, Colo.

FIG. 1. CHURCH OF ST. ANDREW.

MacLaren & Thomas, Architects.





Twilight Park, New York.

FIG. 2. ALL ANGELS' CHURCH.

Alex. Mackintosh, Architect.

but when one sees a church set back only twenty-five feet from the sidewalk it seems surprisingly close to it.

The next point that a committee must consider is the seating capacity of the proposed building, and here many go astray. It is most difficult to estimate the number of persons in a crowd, and one nearly always overestimates. In the

are rented, it will be on a family basis, and many families will rent pews that will seat more persons than in the family. If the church is on a free-pew basis, and all the sittings are filled, without crowding, this may not represent over 80 per cent. of the actual members who might be present at a given time. Very careful consideration should be



FIG. 3.

same way, the seating capacity of churches is frequently overestimated, and if taken as a basis for the needs of the new building, may lead to greater errors. One may hear a church spoken of as seating five hundred, when a count may show sixty pews seating about six each. Seating capacity based on membership is equally faulty; for if the pews

given to this, as a church that is too small for the congregation fails of its purpose if it is a new one, and if it is too large, it has a cheerless aspect for both parishioner and clergyman, with its waste of empty sittings. Moreover, the cost of the building, both for erection and maintenance, is directly proportional to the seating capacity, and



if these costs have to be carefully counted, as they nearly always do, the church should not be any larger than is really necessary.

Conservative provision should be made for a natural growth in any new church. In towns that are closely built up, growth may be considerable; but in the majority of the smaller towns, where the houses spread over considerable area, it will be less, owing to the tendency to create new parishes rather than to build up very large ones; the new ones being placed in more easily

gation grows; this does away with the tendency of persons to sit in the back seats at the expense of the front ones, which is so distressing to the preacher. The continental system of seating a church with movable chairs, only enough being placed for the actual congregation, has never taken root here, as our people like to have their own pews or assigned sittings where they can leave their hymn and worship-books from week to week. This is less true of the Roman Catholic churches, but even in them chairs are seldom used in place of pews,



FIG. 4. RURAL ENGLISH CHURCH, SHOWING THE EFFECT OF A PICTURESQUE SITE.

accessible locations to the new parts of the town. Where it is desired to leave a safe margin for extra accommodation, it is wise to pew only a part of the church, leaving ample space in front of, and behind the pews, and arranging broad passages; on ordinary occasions nearly all the available seats will be filled, and on special occasions seats or benches may be placed in the vacant places and in the passages, accommodating a considerable number of extra persons. Sometimes a whole bay may be left unseated for use when the congrega-

tion grows; this does away with the tendency of persons to sit in the back seats at the expense of the front ones, which is so distressing to the preacher.

While considering the size of the building in reference to the seating space, attention should also be given to the space to be occupied by the chancel, organ chamber, vestry-rooms, and so on. This, of course, varies with different denominations, and in some degree with different parishes. A liturgic church, like the Protestant Episcopal or Roman Catholic, requires ample chancel

and sacristy space; a Baptist church must have proper dressing rooms provided, and in all churches more space than is customary should be given to the organ chamber. Even if it is not intended to spend over \$3,000 or \$4,000 on an organ in the beginning, it is probable that some day several times that sum may be offered by a wealthy admirer of organ music for an instrument; then, it is only too often that a fine gift is ruined or seriously damaged, by placing it in an improperly planned organ chamber, or one that is too small. An organ pipe speaks out of its top, and should have ample space above it for the proper formation and diffusion of the sound waves. Moreover, a certain part of the sound, and that important part that determines the quality, speaks from the lip. For these reasons pipes should have ample space between them, as well as above them; if a ceiling has to come close to them, it should not be flat, but should be so shaped as to throw the sound out into the church. Also, if the organ space is separated from the church by an arch, it should be so shaped and placed as to avoid any pocket. Its crown should be close up under the ceiling, and its jambs mark the full width of the organ chamber.

The height required varies, of course, with the scope of the organ; but only small organs are without a 16-foot open stop, and there may be several. In a stop of this pitch, the lowest toned pipe is sixteen feet in length from the lip to the tuning slide, above this is about a foot for tuning; the "foot" of the pipe, below the lip, may be from twelve to thirty inches long, according to the quality of tone of the stop. This pipe stands on a windchest, which may be from about sixteen inches thick, including action, in old-fashioned organs, to several feet in the organs of the "Austin" type; thus it will be seen that an organ chamber ought to be at least twenty-four feet high at its high point; and if it is less, that the deep-toned pipes have to be bent over, impairing their tone quality.

Plenty of space ought to be provided

for the chancel and sacristies, where required in liturgic churches. Ritual is intended for an aid to devotion; to this end it requires dignity of performance, and this is impossible in cramped and uncomfortable quarters. The choir space should be large enough to prevent crowding, a fruitful source of disorder among mischievous choir-boys; and the sacristies should be large enough and arranged properly for storage of vestments, as well as for comfortably putting them on and off. A choir-room should be large and high enough for use as a



Fig. 5. Broadway Front of St. Paul's Chapel (1766).

McBean, Architect.

rehearsal-room; it is difficult to rehearse in a church without disturbing the habit of reverence, and moreover, the organ is not a suitable instrument for use in training singers in new music; therefore the choir-room should be the largest and best arranged of the dependent rooms. It requires height so that the volume of tone will not drown out the finer shadings, and light so as to make the strenuous work easier; and by all means must be provided with some means of natural or artificial ventilation. Where forty pairs of lungs are exhaling such



quantities of air, the room soon becomes foul, and minds dulled by the poison.

Style and material are matters on which there might be much discussion. For the former, it may be said that probably no one style will ever be evolved that will suit all conditions and locations. It is a subject often approached with a good deal of prejudice and even acrimony, by both clients and architects, who fail to remember that no style is sacrosanct. It must be appro-

breathe a sincerity and sober earnestness fitly symbolizing the men that have made them sacred by their prayers and preaching, and that suit perfectly the needs of the simple services conducted in them; no lover of the modern styles can deny the dignity and religious helpfulness of a good Gothic church; note how well the one illustrated herewith (Fig. 6) serves the purpose of the solemn and dignified ritual of the Anglican service. The matter of style is dependent on



FIG. 6. ST. PETER'S, DERBY, ENGLAND.

priate; to an unprejudiced eye a Gothic building is sadly out of place in India, as is a Spanish mission church in Maine.

Certain styles have historical connections, not only with localities, but with certain religious bodies, and these traditions should be respected and utilized with discretion. The most pronounced disciple of Gothic architecture cannot but feel the charm of King's Chapel in Boston, or St. Paul's Chapel in New York (Fig. 5); buildings that

taste, and, like it, cannot be bound by too definite canons; it is a matter where judgment should be sought from those competent to give advice, with a full knowledge of the controlling conditions.

A few rules may be laid down that are equally applicable to all styles; a church must possess dignity, quietness or repose, and a religious aspect. Dignity it must have, as it is a temple for the highest aspirations and noblest thoughts; it must not be "cunning" or

"cosey" or "homelike"; these are qualities to be desired in other buildings. Again, if it is to be a building that is to last through centuries, it must have

it should have a religious aspect seems like a truism; but much has been done under the guise of church architecture that is not worthy of the name; the land



FIG. 7. ST. JOHN'S, HUNTINGTON, N. Y.

Henry M. Congdon & Son, Architects.

repose and quietness, and entire freedom from the fleeting fashion of the day; it should be a work of art and not an example of an artistic epoch. That

is covered with churches that look like banks, office buildings, clubhouses, and almost everything but what they are. Happily public taste is changing, and



the churchly church is desired, as it should be; it should invite to prayer, and not to entertainment.

The matter of material to be used in the new building is one partly depending on the design that is to be worked out, and partly on local conditions. Cost will be a determining factor, of course; but here a sharp distinction must be drawn between first cost and maintenance cost, for it often happens that a greater first

age a costly stained glass window; while stone will last indefinitely. Wooden columns are found in some of the Gothic churches built fifty years ago or less, to support the roof; the best of them will rot out badly, chiefly where it does not show, at the core and below the floor, and some day the roof will settle, and perhaps start a panic in the congregation. Masonry piers will last forever, and their cost is not pro-



FIG. 8. INTERIOR, ALL ANGELS' CHURCH, TWILIGHT PARK, N. Y.

Alex. Mackintosh, Architect.

cost will make a decided economy when the total cost at the end of ten years, say, is considered. Cut stone tracery for windows seems a luxury, and when figured in percentages seems much more costly than wood; yet if figures are taken both ways, the net difference in the total cost of the building may not seem very great when it is considered that wood tracery needs re-painting at regular intervals, and even with this care will ultimately rot out and possibly dam-

hibitive, if placed while the church is being built; in a small church they may be made of brick and plastered, as shown in the church at Huntington, Long Island, from our designs (Fig. 7); while in a more costly building they may be of cut stone. There is more excuse for placing a shingle roof on a church, for when that decays after a few years, it is simple enough to replace it with a better and more enduring material; but the parts of the building that cannot be

replaced with better material ought, if possible, to be built right in the first place, not only as a matter of appearance but as a matter of true economy.

In the matter of material for the walls there is much choice. Stone is of course the most desirable material for a monumental effect, but excellent results may be obtained from brick, including the despised common red brick. For very small buildings terra-cotta or con-

then cheaper ones should be used, but always in a scrupulously honest manner. A veneer of masonry on a wooden wall is an abominable sham, and if the church is to stand for absolute truth and uprightness in the community, its building must preach the same doctrine as its preacher. Shingles are honest, if not of an enduring nature; and it will be the duty of the committee to balance the claims of the necessary orn-

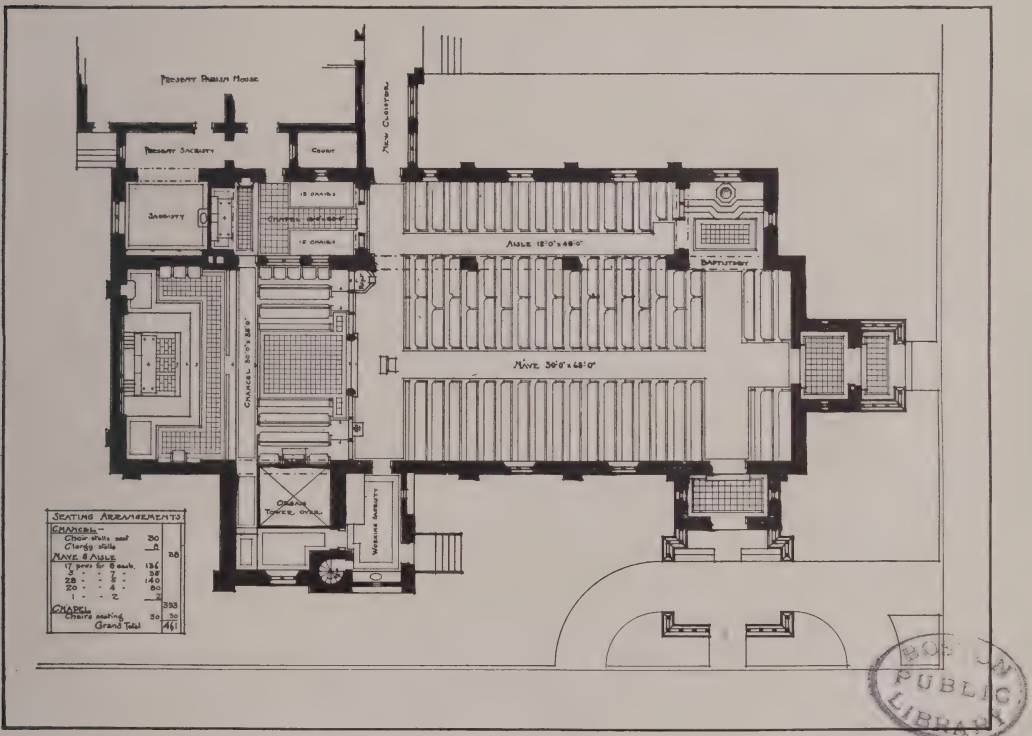


FIG. 9. PLAN—ST. PETER'S CHURCH.

Bennington, Vt.

H. M. Congdon & Son, Architects.

crete blocks may be used, covered with stucco, a method possessing great possibilities of effect as well as being economical. Concrete blocks should never be exposed to view, especially if "rock faced"; the material has an unlovely texture, and the rock-facing merely adds an element of sham for which there is little reason and no excuse. There is no disgrace in poverty that is honest; and if the available funds will not permit of the use of handsome materials,

amentation and furnishing of the building against the materials that must be used in the first instance. Many a church has done well to use its old furniture over again in the new building in order to have stone walls and tracery. Of the material of the inside walls there is less choice. Long use has accustomed us to plaster, more or less decorated in color. It is the cheapest material available, but has the demerit of requiring care, and re-decoration. Walls that are



solid stone, faced on both sides, are of course the most beautiful; but they have the demerit of appearing cold if the local building stone does not happen to be of an agreeable shade for interior work; and brick is a difficult material to use with good effect. It is lacking in the individual beauty of stone, but may be laid in patterns that will give the requisite texture; but these patterns may become most tiresome when lived with for many years.

Absolute sincerity in material should prevail in the interior; there is no place in a church where artificial marble should be used, or grained wood, for example. If marble and quartered oak cannot be used, let cheaper materials be used, and frankly acknowledged. There is always a way of treating the cheaper materials in an attractive manner; note the interior of the Twilight Park church (Fig. 8), where common softwood timber is used, rough from the saw, and stained.

There are a number of practical matters that should be carefully provided for in the planning of the church. If it is to be a church for a parish using a liturgy or set ceremony of worship, a number of details must be regarded, not commonly found in other churches. The pews should be so arranged as to make *kneeling* as comfortable as sitting down. Frequently one finds committees trying sample pews by sitting down in them; but in the Episcopal service, for example, a large proportion of the time spent in church is spent kneeling, "on their knees," as the English rubric says. A pew may be most comfortable when one is seated, and acutely uncomfortable when one is kneeling. The back should not slope much; it is generally not steep enough; and it must not be too high. The steeper the slope of the back the less height is required and the more comfortable the pew for kneeling against, while it retains comfort for a seated worshipper; as no one remains seated for any length of time in the Episcopal service, a reclining attitude is not natural. The distance apart of the pews depends on the proportions of back, seat, and slope and height of back and seat;

it is not easy to lay down any set rule for any one of these factors. The pews should be arranged with proper passages of such a width that processions may readily pass. It is particularly important that the middle alley should be wide enough for pall-bearers to carry a coffin; five feet may be taken as a minimum in a very small church. Other details, such as the arrangement of the different levels of the chancel and the relation of these to one another, have important bearing not only on the appearance of the interior, but also on the comfort of those using the church, and even on the acoustics. The choir should not be raised too high above the congregation, or the altar will be dwarfed; and if that is raised higher than natural to overcome this, it will lose in dignity by lack of relation to the chancel as a whole. Circulation should be carefully planned, in the chancel particularly, so that the communicants who have received the sacrament may return to their seats without interfering with those who are about to approach the altar; this same circulation should also permit ready access to the chancel from the sacristies, and also intercommunication between organist and choir (Fig. 9).

The special requirements of church planning are so varied and technical that they are beyond the scope of this paper; but a word may be said as to the use of symbolism in church architecture. A really good church design must have more than beauty of mass and detail and convenience of planning; it should embody, particularly in the case of the liturgic churches, some of the rich and varied symbolism of which the middle ages were so full. This symbolism had its rise in practical needs, probably, and it is always in danger of degeneration into sentimentalism, but, nevertheless, used with restraint and skill, it may add the touch of poetry to the design that differentiates the work of the architect from that of the engineer. The church services are full of symbolism; the ritual, more or less elaborate according to local custom, is almost entirely symbolic; and it seems fitting that appropriate symbolism should be used in the design.

This requires rather special study and training, a wide acquaintance with traditions and legends, and of course with Biblical lore and church teaching; but it is worth the trouble and study that the architect has put into it when the casual visitor notes the various articles of furniture in exactly their proper places and ornamented with appropriate devices, and reads in sculpture or glass familiar or half-forgotten legends of earnest Christians of long ago; and to the teacher it is a mine of inspiration for interesting and instructing children, maybe in ethics, maybe in history, but in a way that is much more impressive and much more eagerly learned than if in the printed books.

Such, then, are the matters to be debated by the committeemen who have

a church to build. After the work is progressing and the walls rising, a totally new and equally interesting series of problems will present themselves, about which much might be written; the relation of architect and client, and contractor and client, and the architect's relation to both; the criticism of the hasty and the unlearned, the reluctance of the tardy subscribers to turn their pledges into cash, the problem of the dreaded "extra"; truly, peace will not come to the hardworking committeeman for many a week. But in the end, after the church is completed, furnished and dedicated, with what satisfaction will he look about it, and say: "I, too, have helped to build a temple unto the Lord."

*Herbert Wheaton Congdon,  
M. A., A. A. I. A.*

## The Architect's Proper Sphere of Activity

### Draughtsmanship and Designing

In the issue of September, 1909, was published an article from the pen of Prof. Ware. From this paper the author omitted certain matters which he subsequently embodied in the communication printed below.—Ed.

One of the most sensible as well as most eminent of our architects, bearing in mind the deceitfulness of drawings, was in the habit of saying that he never felt sure that he had got a design into shape until the office boy's copy looked well. He regarded drawing merely as a means of conveying his ideas to his clients and to his mechanics, and did not consider artistic draughtsmanship an essential or even a very useful part of an architect's equipment, any more than skill in versification is of value to an essayist, otherwise than as affording practice in the use of language. An architect may, indeed, well deny himself indulgence in so attractive and engrossing an accomplishment, on the ground that he cannot afford time for it, except, perhaps, in vacation, any more than he can find time to make of himself a first-rate mathematician, or civil or

mechanical engineer, or electrician, or carpenter, or mason, or decorator, or to become an expert in heating or ventilation, or even in plumbing, whatever his natural gifts in these kinds. There is not time enough, either in a professional school or in active professional life, for one man to keep in touch with all these arts and sciences in their daily developments. An architect has enough to occupy all the time and all the wits at his command in attending to his own proper business, and properly performing the tasks that nobody else can do for him. There are plenty of people to do all these things who make a specialty of them, and who can do well what he cannot hope to do more than passably, after the manner of an amateur.

But amateur work is not what his clients want, and he ought not to put them off with it. The old notion that an architect owes it to himself to keep everything in his own hands, posing as a past-master of all arts and crafts, was never a tenable one even for men born with the gift of universal genius. Few men have ever entered into this birthright, and the



notion that every architect should pretend to it has fostered an untenable and preposterous attitude which has brought deserved discredit upon the profession. All that the ordinary practitioner can honestly undertake is to understand these matters well enough to discuss them intelligently with his advisers, that is to say to be able to ask intelligent questions, to understand the answers, and to make intelligent suggestions, reserving to himself freedom to follow the advice given, or not, according as it does or does not promise to further the practical or artistic ends he has in view. His own part is to make choice among the alternatives offered him, according to his own final judgment, and to co-ordinate the whole into a harmonious and consistent scheme. Even this work of supervision, however, well he may be prepared to undertake it, will hardly leave him time for his own proper work, that is to say, for the thought and labor of putting into shape the ultimate scheme, the well-imagined end for which all these things are only means.

Very much the same caution is needed in dealing with proportions as with dimensions. Rooms of the same shape but of different sizes appear in the drawings to be equally well proportioned, for, whether large or small, the ratio of height to width is the same. But a room seven feet wide and seven feet high seems to be badly shaped, being too low for its width, while the House of Lords, which is forty-five feet wide and forty-five feet high, seems almost too high and narrow. Drawings would suggest no such difference. The lofty roof of Westminster Hall looks, in drawings and photographs, low and squat. The old Music Hall in Boston gave the impression of a tall and rather narrow room, being sixty-five feet high. Yet it was seventy-eight feet wide. But a room of the same shape, and that would appear to be so in the drawing, if only five feet high and six feet wide, would seem low. In all these cases drawings would be misleading. For every part of a drawing is nearly on the level

with the eye, but one must lift his eyes, even in a low room, in order to see the cornice, and it is the effort to do so that gives the sense of loftiness. So also when one is lying on his back on the top of a hill the sky seems long and narrow, like his face, and the horizon appears not circular but oval. For looking down at one part of it over one's cheek bones and up at the opposite part over one's eyebrows, requires more exertion than seeing the other two quarters out of the corners of one's eyes.

Added height, also, tells in reality for less than one would naturally expect, on account of the perspective diminution though in drawings it has its full value. For, owing to their small dimensions, the vertical line, sixty feet high, may indeed look twice as high as one of thirty feet, but an additional sixty feet does not make nearly so much difference, as may be experienced in French cathedrals, and even more strikingly out of doors. The five hundred foot obelisk at Washington, does not seem, when one is at its foot, very much taller than Bunker Hill Monument, which is less than half as high. So, also, in a street made up of eight-story and sixteen-story buildings, the sky-line looks hardly more ragged than with an alteration of four-story and eight-story houses, and "skyscrapers" make less show from the sidewalks beneath than from a distance, where they loom up like towers, "*Quantum lenta solent inter viburna cupressi.*"

The moral of all this is: that, since many of the most important qualities of buildings cannot be shown in drawings, and the most engaging qualities of a drawing cannot be made manifest in the building, drawings are unsafe guides, and, the more attractive they are made, the more misleading they are likely to be. It would seem to follow that the practice of making architectural drawings as attractive as possible is an unwise one, and that they should exhibit only such merits as are to be found in actual structures. Beyond this all, pictorial representations are misrepresentations.

W. R. Ware.



THE ROYAL AUTOMOBILE CLUB.  
Pall Mall Façade.

London, England.

Mewes & Davis,  
E. Keynes Purchase, } Associate Architects.

## The New Club House of the Royal Automobile Club, London

Those recent examples of the French influence upon architecture England—more particularly in London—have met with such general approval that there can be little doubt but that in a short time the influence of the Ecole des Beaux-Arts—of which these indicate the commencement—will be as potent a factor in the architecture of England as it has been during the past fifteen years in that of the United States. So far, as the monumental architecture of the country is concerned, nothing could be more welcome, with the saving clause that the best French works be allowed to serve as models and that “Art Nouveau” and the other vagaries do not become an accompaniment. Perhaps the most important and certainly the most interesting example of the effect of this influence is now in course of construction in Pall Mall on a part of the site occupied by the old buildings—formerly the war offices—between the Carlton Club and St. James’s Palace grounds, it is the new home of the Royal Automobile Club.

Pall Mall, though it exhibits a few aberrations, has been more fortunate than most of London’s principal streets, in so far that the newer buildings have been, for the most part at least, the

equals in design of the older structures which they have superseded.

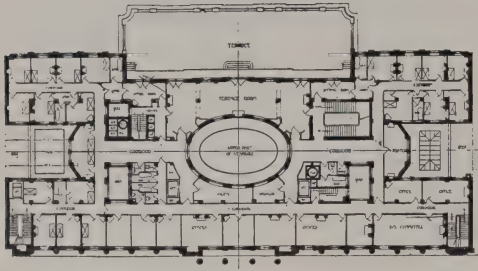
When it was announced that the old buildings of the war offices were to be demolished to make way for “a modern improvement” not a little dissension was aroused.

English sentiment breeds reverence for anything that is old, regardless of whether or not the object be worthy of it; which as far as architecture is concerned may be understood when one looks upon the good, if commonplace, old structures, and then upon the pretentious alleged “improvements”; one grasps in an instant the national antipathy to “improvements” sympathises with it, and gives the protesting public credit for at least good judgment.

The old war offices were just such common-place old buildings, with nothing remarkable about them—only plain—not particularly refined, just inoffensive, and the present improvement will be a real one.

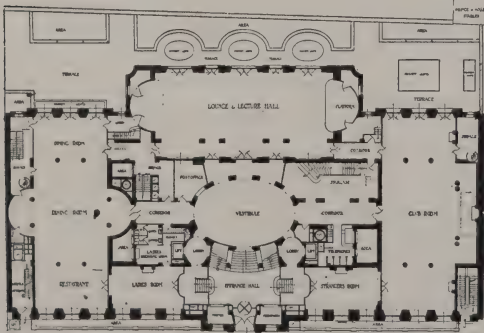
The Royal Automobile Club is being built from the designs of Messrs. Mewes and Davis, and Mr. E. Keynes Purchase, joint architects. Few modern buildings afford such opportunities for the display of an architect’s abilities as does a club-house, for which there are





Second Floor Plan.

many obvious reasons. There is, for instance, no opposition party demanding an investigation of every cent spent upon those details and materials which come beyond the range of "rigid economy," usually the bane of the architect's existence when he is working upon the plans of a building that is to be erected from funds gathered by the tax collector. Neither is there the trouble of educating the client from, "English Gothic" to sobriety, nor the diplomatic labor necessary to convince his clients' female relations that his design cannot be materially improved upon—and cheapened at the same time—by adopting all of the suggestions set forth in the "architectural" section of *The Ladies' Universal Magazine*, which are sometimes brought to bear against his ideas as to domestic work. Perhaps most fortunate of all is the fact that this is not in a sense, a commercial structure. An important social club—especially an automobile club—implies a certain assumption of wealth of its members, but differs from an expensive hotel, in that its object, avowedly at least, is not pri-

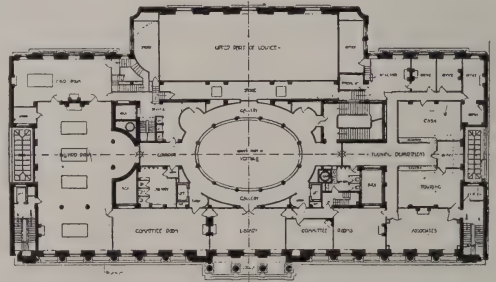


Ground Floor Plan.

marily to make money and therefore, it need not vie with its neighbors in pretensions to luxuriousness for the sake of the advertisement entailed.

Besides a degree of intelligence and refinement may be expected of the members of its committee not so likely to be found in those charged with the erection of public, ecclesiastical or commercial structures. The club committee are less likely, either, to leave the architect without information as to what is required, or to goad and hamper him with unreasonable conditions and restrictions.

A member of such a committee could never be selected from the ranks of those resolute busybodies, who are forever making trouble, even if by some

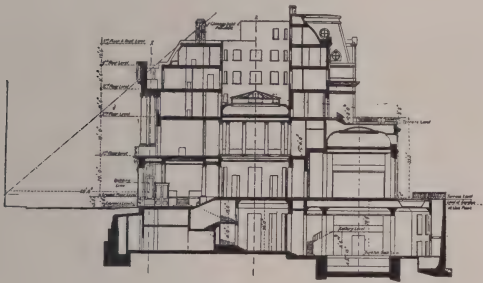


First Floor Plan.

mischance such had been admitted to membership. Hence obstructive interference or excessive individuality is improbable of intrusion upon the domain of the architect, and he is left with an almost ideal problem to solve. He is given the site, the approximate number and kind of rooms for reception and entertainment, for accommodation of members, and for service. The engineering detail, if more complex, may be less in evidence than is usually necessary in other large buildings.

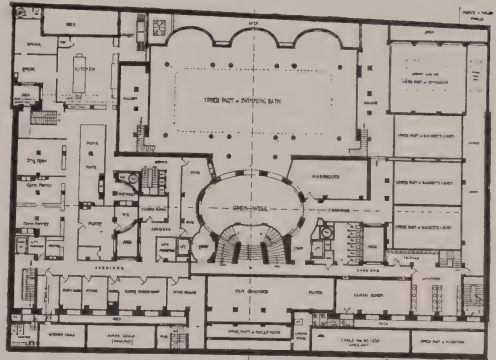
Participating at once in the nature of the domestic and public building, it is the least of each and the highest type of both the ideal of practical socialism; the home of good form and refinement; the child of precedent. Personality, if not discountenance, is at least undesired; and extraordinary originality, especially if it leans to eccentricity, is not club-

able. The character of its architecture must be dignified, the style correct, and the individual element in design which makes a home charming to one person and unbearable to another should be eliminated from consideration. Impersonal, if not strictly monumental, architecture has been the rule for the best clubs of the West End, high Renaissance being the type of design which has prevailed in Pall Mall. Of the clubs extending from Waterloo Place to St. James' Palace (which includes the Athenaeum, Travelers' Reform, Army and Navy, and Carlton), the façade of the Travelers' is based upon the design of the Pandolfini Palace in Florence, and that of the Carlton upon the Library at Venice and the Reform and



Transverse Section.

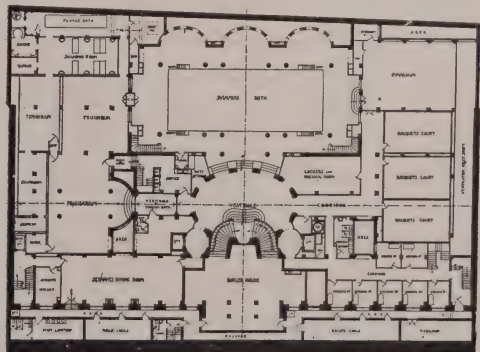
Army and Navy, upon palaces at Rome and Venice. The Royal Automobile Club, which will adjoin the Carlton, follows the precedent more or less adopted by the other clubs, and owes its inspiration to the former Hotel Crillon-Coislin—now the Automobile Club—in the Place de la Concorde, Paris. It would be difficult to find a more beautiful studied example of modern architecture than the fine fronts by Gabriel facing the Place de la Concorde—there are, as everybody knows, two façades exactly alike, the former Hotel Crillon-Coislin and the Ministère de la Marine—which rank second only to Perrault's colonnade of the Louvre, if, indeed, to that, amongst the finest columnar façades in the world. It is extremely improbable that any classic design to equal this will be built in England during the lifetime of anyone now



Lower Ground Floor Plan.

living, so that any architect who would emulate Gabriel must needs do so in much the same spirit that he might attempt to emulate the Parthenon or the Sainte-Chapelle—to attain as near as the conditions permit the same character of refinement, simplicity, and strength.

This character is expressed to an unusual degree in the design for the new Royal Automobile Club. It is large in scale, an essential to monumental effect; the proportions of the *travée* are nearly the same in elevation as those of the buildings by Gabriel, but the effect will be quite different in perspective, due to the column being engaged instead of part of a free screen. Again, in elevation, the central feature of the new building is similar to the end pavilions of the old; but the effect here will also be different. In the French example the corner columns under the pediments are engaged to the pylons,



Basement Floor Plan.



and the two middle ones, though free, are only a half diameter from the pilaster behind. In the building to be erected in Pall Mall, the corner columns under the pediment will be a half diameter in front of a pilaster on the corner of the pylon against which the portico returns, while the middle ones are free standing, the wall face being recessed below the pediment to form a loggia. This latter effect is usually a weak one, giving as a rule, the impression of two buildings joined together; but the present treatment with the pylons at the ends, and those at either side of the pediment brought to the same face, slightly in front of the bases of the columns, and the mass of masonry forming an attic behind the pediment, projecting beyond the face of the pylons will produce the effect of a strong frame of masonry round the void in the center, and will effectually unify the whole front.

The planning is on a very monumental scale and the way in which one floor is evolved from another is quite interesting.

There is an uninterrupted vista from the main entrance in Pall Mall through to Carlton House Terrace at the back. There is an elliptical rotunda in the centre of the plan at the intersection of the two principal axes serving at once as a vestibule, main hall and light court. Around this are arranged all the principal services, including the main staircase, passenger elevators and dumb waiters, service stairs, mail room, dressing rooms, cloak room and telephone rooms. The boiler flues and principal ventilating shafts are arranged next one of the elevators, near the service staircase.

These light areas extend, through the lower ground floor, to the basement. On the ground floor, the principal position is given to the lounge and lecture hall which is on the principal axis and overlooks the park-like Carlton House Terrace. The club room and the dining room terminate the long axis to the right and left respectively and have windows upon both Carlton House Terrace and Pall Mall. Overlooking Pall Mall and

between the main entrance and the dining room is the ladies' room; between the main entrance and the club room is the stranger's room. Messengers and porters occupy rooms to the right and left of the main entrance. In the extreme corners of the building are the external services and minor internal services. The terraces at the back are arranged to provide for the direct lighting to the important rooms in the lower ground floor and basement.

On the first floor the rooms of greatest importance are the billiard and card rooms to the left, and the committee rooms, library and associates rooms to the front. There is also a complete touring department and a suite of four offices besides the secretary's offices and store rooms on this floor.

The second, third and fourth floors are given up to bed and bath rooms for the use of members. The second floor differs from the two above by including a kind of drawing room, called the terrace room, which opens upon a balcony leading to a terrace which forms the roof of the Lounge hall below, and also in being planned to include sub-committee rooms, printing room and some offices. The fifth floor will accommodate the staff.

Not the least interesting part of the planning is that of the lower ground floor and basement. The former which is a large mezzanine floor includes the whole kitchen department and most of the staff dining rooms to the left of the central hall and main staircase, which is, for these two floors, planned in direct communication with the main entrance—and, to the right, the cloak rooms, lavatories, closets and urinals; each of the three latter groups being in a separate room—the barber shop and filter and locker rooms.

The plenum fan chamber is placed directly under the main entrance.

In the basement, the boiler room is directly below the plenum chamber; the servant's dining room and kitchen below the staff room in the mezzanine. Under the kitchen wing the basement is occupied by the elaborate Turkish baths. At the opposite end of the

building are the gymnasium, three racquet courts, a group of bath-dressing rooms with toilet nearby. At either side of the grand elliptical vestibule are the services and the locker and dressing rooms.

At the foot of the main staircase back of the central hall or vestibule and a few steps below it will be the principle *pièce de résistance* which is the swimming bath with a pool thirty by seventy-five feet.

This room and its accessories remind one of the great days of Rome—or perhaps rather Pompeii. The studies which have been prepared show a treatment suggestive of the latter as regards style and color and the model which has been made to a large scale, indicates that this hall will be one of the most notable modern rooms in existence; and the view from the end galleries should be most effective. It will undoubtedly afford its architects an opportunity to surpass themselves as regards the decorative and monumental treatment of a great room and as far as the studies have proceeded there is every indication that that result will be achieved. It is, in the first place, ideally located to produce "*Piranesiesque*" effects, especially from the mezzanine story landing of the main staircase, then it is large in its dimensions—about fifty by ninety by twenty-five feet—but not so large as to prohibit the employment of good materials and interesting workmanship. Its proportions of length to width, and both to height, have been such as to demand a very strong treatment of the isolated points of support due to long spans between the pairs of columns and the acceptance of the strong type—one which is even somewhat archaic has been a further step in the direction of effectiveness by virtue of the great scale which will be felt as one in leaving the staircases which must of necessity keep to the human measure, comes upon the basement level of the elliptical vestibule and sees directly before him the four groups of Doric columns which, rising from a plane at a lower level than that upon which he stands, are reflected in the water which extends in both direc-

tions beyond the wide angle of vision, permitted by the splayed entrance to the room which is the natural and effective result of the employment of the elliptical form of plan for the vestibule. It is always rather "previous" to mention favorably or otherwise a color scheme before it is actually accomplished and, at the time of writing, the scheme for this room is only in the study stage. The studies are based upon the Pompeian examples; and, of modern work, we all can recall instances in which the same description would apply, detail for detail, to an example which we know is excellent and another which is impossible. But having regard to other and completed interiors by the same architects, in which we know well that the delightful harmony and arrangement of "values" is not merely "lucky," if it is too much to predict it is not too much to confidently expect that the color treatment will be equal to the architectural, and not the least important factor in a fine design.

The lounge and lecture room, which has the commanding position on the ground floor, will be the next most important room, being one hundred and eight feet long, including the platform, by forty feet wide by thirty-three feet high, the club room at the west end and the dining room at the east end are each ninety-three feet by thirty-five feet and the vestibule forty-eight feet and thirty-two feet at its long and short axes.

At the present time the building must be judged from paper and plaster. With the exception of the end pylon, which does not seem a very ideal solution of the difficulty, the principal front is as good architecture as we should reasonably demand in these days of modern convenience. One thing prevents any certainty of judging the actual effect, viz.: the building faces north—a fact which does not make so very much difference in London—but if the sun ever does shine again in England! we shall have to walk round into Carlton House Terrace and regard the comparatively unimportant garden facade to appreciate the academic "shadows at forty-five degrees."

Francis S. Swales.



## Lessons from Architectural Aberrations

Not very long ago I published a book\* in which I endeavored to elucidate certain principles for designing the exterior of buildings, not precisely without reference to their interior arrangements, but as a separate branch of the art of design, deserving separate consideration, just as the planning of the interior is to be studied separately, the mind of the architect having each one clearly before him while working out the other.



Fig. 1. Church at 163d Street, New York.

The composition is unpleasing, because the central mass is neither dominant nor subordinate.

It is my purpose now to show the utility of these principles in forming and expressing an intelligent criticism of un-beautiful buildings that come under our eyes, in place of obscure denunciation or mere silent repudiation.

No attempt has been made by those who have criticised the work to impugn the validity of the principles therein worked out; the only criticism has been that the starting point was a mistaken

\*"Architectural Composition," D. Van Nostrand Co., 1908.

one, that beauty, as an end in itself, mattered not at all, but that only utility and appropriateness were to be considered, and as much beauty as was compatible with the conditions of the problem was sure to follow. As one critic put it, the theory was too "hedonistic." "Hedonistic" is a word borrowed from the nomenclature of ethics. It is from the Greek *ἡδονή* — pleasure — and it means that the theory to which it is applied as an



Fig. 2.

Sketch of the same church, with the central mass omitted, thereby attaining coherency and unity of composition.

epithet, whether of ethics or art, regards pleasurable emotion as the ultimate object sought.

I accept the criticism, not as a criticism, but as the expression of a fact.

It is fitting that in an age in which hedonism is rapidly pushing its way as the only tenable theory in ethics, it should also find favor as the only tenable theory in art. Beauty is, indeed, the ultimate object of architecture, and pleasurable emotion is the object of all art.

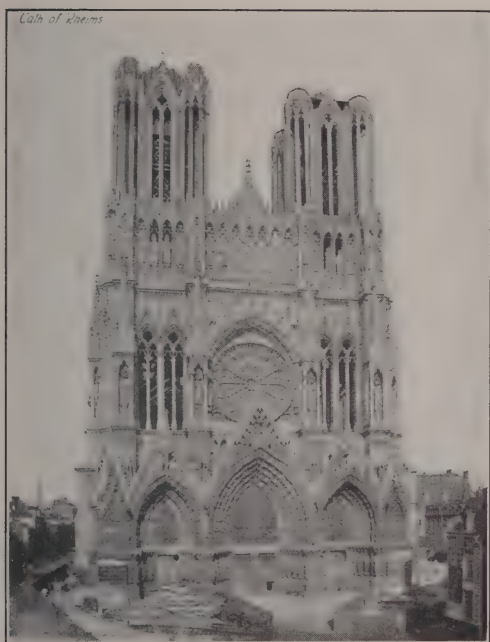


Fig. 3. Cathedral at Rheims.

The central gable is almost concealed by the horizontal arcade, leaving the visible portion definitely subordinate.

Architects habitually hold that they are artists, and that their especial function is to make buildings beautiful. No doubt they have other functions: to make buildings convenient for use and strong in construction, to put into them efficacious systems of plumbing, heating and lighting; but with all these and without beauty, architecture remains but a mechanical art, is not yet an art with a capital A—a fine art.

If it were true that perfect utility is identical with beauty, we should be lost in admiration of many of the forms of Nature, which, although perfectly adapted to their environment, are sometimes hideous to behold, such, for instance, as the Gila monster.

The human face alone should be sufficient to refute such a theory. A snub nose and colorless eyes may smell and see as well as the purest profile and dreamiest orbs. Indeed, so delicate and elusive a thing is beauty that we have all known sisters of strong resemblance, one of whom was beautiful, the other plain, if not ugly. A little more weight

in the chin, a little more prominence in the cheek bones, a slight depression in the forehead, and beauty vanishes. It is as evanescent as the charm of a melody, not to be constructed by any rules of counterpoint.

Yet in the study of architecture infinitely greater stress is laid upon the work of planning and of construction than upon that of external design, partly because both of these are really of profound importance and significance, partly because until now there have existed no written rules or principles for the composition of the exterior.

Such principles can be reached only by examining buildings that are not agreeable to the eye, and, instead of dismissing as unworthy of notice, inquiring carefully as to the reason why they fail to please, comparing them with others that are pleasing, drawing our conclusions and stating them in general terms.

Our first example, Fig. 1, hardly deserves to be called an aberration. On the contrary, it is hard to say why it should not be a fairly presentable build-



Fig. 4. Church of St. Ouen at Rouen.

The horizontal arcade almost conceals and quite subordinates the gable.





Fig. 5. P. M. Sharples' Residence.  
West Chester, Pa.

The small gable in the middle serves to connect the two large gables in addition to the connection by the horizontal lines of the building.

ing. Many minor criticisms, no doubt, might be made. There should be a pediment instead of a gable over the central portion, one critic might say. More horizontal lines are needed, might be the comment of another; while still another, condescending to minutiae, might take exception to the little pediments on the piers at the base of the gable, or to the curiously contorted doorheads.

But none of these criticisms applies to the building as a whole. Apart from the details, everything seems to be in order. There are the usual twin towers; the centre marked by a strong projection, whether gabled or pedimented, should not matter much—everything needed for a satisfactory church front, yet for some reason it is far from agreeable.

The example is a peculiarly interesting one to me, because it was the first that aroused in my mind the question of the possibility of reducing the art of de-

sign to definite rules of, so to speak, rationalizing composition.

The sensation that I experienced upon first sight of it was not pleasurable, but distinctly painful. It struck me as a horror—an abortion, so much more violently than the facts seemed to justify, that I was moved to inquire as to the cause.

Nothing was gained by introspective methods. A mere logical analysis seemed to justify everything as it stood. Nor until comparative methods were used was any light obtained.

But as soon as we have classified buildings as those of two masses and those of three masses, and have found, by an examination of the buildings of



Fig. 6. House of A. F. Holden.

Cleveland, Ohio.

The small gable serves the same function as that in Fig. 5.

the past and present that are generally accepted as pleasing, that in the latter class—those of three masses—the central mass is invariably predominant, we immediately perceive what the trouble is with the example before us.

The prime defect is that it does not clearly show whether a composition of two masses or of three masses was intended. Two masses, indeed, there are—the two towers—but the part between, instead of merely uniting them, which is its sole æsthetic function, pushes itself forward as a third mass, more prominent in plan than the towers themselves, exceeding them also in width, and if not supereminent in height, high enough to compete with them in this dimension



Fig. 7. Residence in Southern California.

The small dormer is an added connection between the two main masses. Compare the similar composition of a painting in Fig. 8.



FIG. 8. "PROFANE AND SACRED LOVE," BY TITIAN.

The two principal figures correspond in composition with the two towers at Rheims and at Rouen, or the two gables in Fig. 5. The horizontal well curb matches the arcades in the two churches and the line of the roof in the house; while the little Amorino figure is subordinate, like the small dormer, and the remnants of the gables of the churches.

also, terminating, moreover, in the most individual of forms, the pyramidal or pointed outline. The result is a painful uncertainty as to which is subordinate—the central gable or the flanking towers.

Imagine, or if your imagination is weak, take a piece of tracing paper and try the effect of moving one of the towers over nearer to the other, into the place now occupied by the gabled mass, leaving to connect them only the part that now connects each tower with the gable (Fig. 2).

There will result an entirely coherent composition, with the central link quite subordinate, much inferior in height to the two masses, on the same plane or back of it, certainly not in front, and of equal width or even less than either of the towers. The upper line of the connecting link will then be horizontal, not pointed, connecting the two individual masses, not asserting itself as an individual.

All, or, at the least, most, of these conditions are complied with in the best examples. Notice how the pointed gables at Rheims (Fig. 3) and at Rouen (Fig. 4) are partially masked by the horizontal arcades in front of them.

It is true that there are many cases in which a central object is placed between two others, without loss of unity and without deserving to be ranked as a composition of three masses; but in all such

cases the central object is definitely subordinated to the two primary masses, and is what I have called a secondary mass, as in Figs 5, 6 and 7, in each of which there is a smaller central part, either porch or dormer, which really acts as a connecting part between the two primary masses, in addition to the connection made by the horizontal lines of the body of the building.

A similar treatment is found in many paintings. In Fig. 8, for instance—Titian's "Profane and Sacred Love"—the two principal figures correspond to the two gabled masses in Figs. 5 and 6, and to the two towerlike masses, with hipped roofs in Fig. 7. They are connected by the horizontal lines of the well curb, just as the architectural masses are connected by the horizontal lines of the buildings, while the very much smaller child-figure bending over the well curb, altogether subordinate, by its diminutive size, by its unassertive attitude, by its semi-eclipse behind the well curb, corresponds exactly to the intermediate smaller dormer that occurs in all three of the architectural examples.

Fig. 9 is a painting of somewhat similar composition, only here are no horizontal lines to connect the two principal figures; they are united only by the smaller figure between them, here again in a semi-recumbent position.

The true three-part composition, in



which the central part predominates in size, is exactly matched by the painting shown in Fig. 10, which is but one of many that show a similar arrangement.

With such rational analysis and criticism, we walk about town with a new interest in the buildings that come before our eyes. We find everywhere examples of compositions of two parts and three parts, and we note where failures have occurred through lack of definite motive.

Buildings gain as much in interest as do human characters when we cease to classify them arbitrarily as "good" and "bad," and when we inquire rather as to the definiteness of motive in either, lack of perfection in both being generally due



Fig. 10.

A normal composition of three masses, the central figure being predominant, as in similar architectural compositions.

to lack of clearness in conception and of consistency in carrying out a leading motive.

With a realization of the definite principles upon which architecture is founded, a light is shed upon the various buildings that we see in our daily walks. We note with interest into which class each of them falls, two or three parts, or whether into neither; while the occasional aberrations that we encounter have a new life; they are no longer to be passed with scorn or indifference; we must find out for ourselves why they are aberrations—what rule they transgress.

Upon encountering such a veritable aberration as this (Fig. 11), for instance, in which unity is altogether lacking, which appears only as a fortuitous jumble of parts, we no longer pass it by as unworthy of criticism. On the contrary, we observe with interest that the chief reason for the lack of unity is that the main body of the building, of which the



Fig. 9.

Here again, as in Fig. 8, the child figure serves to connect the two principal figures, as in corresponding architectural compositions.



Fig. 11. The chief defect is that the central part, which should connect the two gables and, therefore, should be lower, is lower than only one and is higher than the other. The central mass has the same fault as that in Fig. 1: it is neither subordinate nor dominant.

only function, æsthetically speaking, is to tie together the two lateral gabled wings, and which should therefore be subordinate to them, is, in fact, subordinate to only one of them, superior to the other. If the wing on the right could be raised a story higher, so that the connecting part of the building might be lower than it, instead of higher, as now, it is evident what a great improvement would result. Even then there would remain the central tower, which does not dominate the two flanking masses as it should. In height, indeed, it might possibly be regarded as sufficient, but in width it is far inferior to the gabled portions.

Thus it presents that most distressing fault which I have elsewhere called contradictory subordination, that is, subor-

dination in one dimension, superiority in another.

If the central tower could be increased in width, so that it might be somewhat wider than either of the gabled masses, for which it would be necessary to increase the total length of the front, and if it could also be set back almost to the face of the main building, we should have the skeleton of a satisfactory design.

This sin of contradictory subordination is also a sin against the rule of proportion, that the higher any part is in comparison with others of the same order, the wider it must necessarily be, in a ratio approaching an arithmetical proportion. Thus, if the tower up to the



Fig. 13.

A composition of three masses, of similar character and upon the same plane. The turret attached to the central gable, also the octagonal bay, are subordinate masses and might be omitted without destroying the general composition.

cornice is one-tenth higher than the flanking masses up to the base of the gables, it should also be one-tenth wider than they are, instead of much narrower, as it now is.

There is, moreover, a lack of proportion between the gables and the rectangles upon which they stand. A gable of high pitch looks well upon a mass that is tall and comparatively narrow, while a low-pitched gable, such as these are, still more a gable depressed to the pitch of a pediment, always looks out of place and not in unity with the rest of the design.



Fig. 12. Office Building of Willis & Baumer Company.

Syracuse, N. Y.

Three similar masses. The one in the middle slightly larger than the side masses.



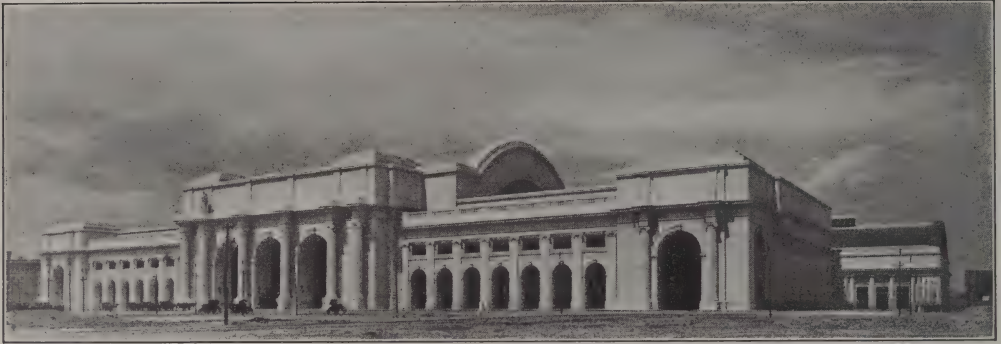


FIG. 14. TERMINAL STATION, WASHINGTON.

A composition of three masses of similar character and upon the same plane or nearly so.

We still have the peculiarly offensive roof of double curvature of the central tower. Why does it look so badly? Double curvature in itself is not unpleasant: witness the graceful Arabic and Turkish domes. The only reason, apparently, is that it is lacking in similarity with the angular plan of the tower. All the bulbous Moorish domes stand upon bases either circular or polygonal, approaching the circular in plan; nor have I been able to find a pleasing example of a roof of curved outline upon a base that was not curved or polygonal in plan.

I have said above that the central tower should be set back of the plane of the two side masses, but I must confess that my mind is in great obscurity upon the general question as to the planes of the masses in a group of three.

It would appear perhaps that when the three masses are in the same plane, or nearly so, they must be similar, as in Figs. 12, 13 and 14, while, when they stand on different planes, they may be either dissimilar, as in most domed churches, or similar, as in the three towers of York Minster. It would seem also that the more nearly they stand on the same plane, the more nearly they should approach each other in size; while on different planes the central may dominate the more the farther its plane is removed. But, as I have said, I am not sure on this point, and submit it to thoughtful minds as one of the questions upon which they may reflect.

Fig. 15 is another aberration which

was roundly abused by the critics at the time it was built, many years ago. Now that it is about to be pulled down and to vanish forever, we may write its epitaph in less flattering words than epitaphs usually are carved. The fundamental error in this design, setting aside the coarseness and bareness of the detail, setting aside, too, such manifest solecisms as the extraordinary arrangement of columns and brackets and pediments which is supposed to carry down the lines of the tower, the fundamental error is not the way in which it is done, but the fact that an attempt is made to introduce a tower at all.

If a tower is absolutely required, then the mistake lies in making the horizontal lines so strong, thus mixing up a possible horizontal treatment with a possible vertical treatment. A horizontal treatment I have called that in which the horizontal lines are most strongly marked, a vertical, that in which the vertical lines prevail.

The example before us is naturally adapted to horizontal treatment, for the reason that the whole lot must be occupied; the space is all required for what goes on inside, and the land is too valuable to permit the setting back of certain portions in order to obtain strong vertical lines. Nevertheless, the designer seems to have had some notion of a vertical treatment lurking in his brain, for in addition to the futile tower, there are slight offsets toward each side, hardly noticeable until we look at it closely.

Had it been possible to follow these

out by giving them a definite projection and crowning them with some suitable top above the main cornice, we should have had with the central mass a group of three masses and a satisfactory foundation for a coherent design.

The really practicable treatment would be to omit the tower entirely and the slight breaks toward the sides as well, giving to the whole a horizontal treatment. Imagine this done, and the design is at once "quieted," the "restlessness" is gone, though it may still be in need of much more combing and hairbrushing.

What designers call "restlessness" will usually be found to mean this confusion of the vertical and horizontal motives. It exists wherever a single vertical object is placed upon or alongside a building of which the main lines are strongly horizontal, as is done upon almost every corner grocery, where above, the main horizontal cornice, is set some kind of a turret, or perhaps the turret is carried down to the ground to form a round corner to the building, with a vertical break on



Fig. 15. Union Dime Savings Bank, New York.

The cause of this aberration is the antagonism between the horizontal and vertical treatment, neither one nor the other predominating.

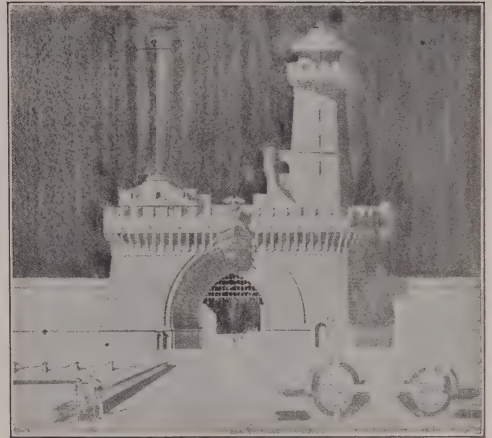


Fig. 16. Entrance to a Navy Yard.

The same antagonism exists between the horizontal and vertical motives as in Fig. 15.

each side where the flat wall joins the curve. In either case there is a painful clash between the vertical and horizontal motives.

In Fig. 16 is another example of the same error, although this is a school drawing that obtained the distinction of a "mention." Here, again, the trouble lies in the antagonism between the heavy horizontal cornice and the vertical tower that stands on top of it. Cover the tower with your thumb, and what remains is meritorious enough. Or, without omitting the tower, if the main cornice could stop when it comes to the tower and not run around it, being much diminished at the same time, the design would be more coherent, the tower then constituting a single mass, with the horizontal part attached as an appendage. Or if the tower were made the leading motive, and the second tower on the left, now merely rudimentary, were increased somewhat in height, the massive cornice entirely abolished and the gateway reduced to a bridge connecting the two towers, we should have a group of two unequal, but similar, masses, connected by a link, a perfectly coherent vertical motive.

How important it is that the two towers, or two masses of whatever kind, should be similar in character, though different in size, is shown in Fig. 17. The large tower on the left is pleasing and





Fig. 17. Webb Academy, New York.

The unlikeness of the two towers detracts from the appearance of what would otherwise be a pleasing composition.

adorns the landscape from a distance, and the building, as a whole, would be fairly satisfactory if the smaller tower on the right had been finished with the upper part more nearly like the other. It may be mentioned that the photograph does not show the building at its best, as the distortion caused by the elevation of the site exaggerates and deforms the nearer parts.

Fig. 18, however, shows an unmistakable aberration, and from the same cause—the unlikeness of the two towers. Make them alike, and the design will be pleasing; as it is, no one could plead for it. Not only are the towers dissimilar, but proportion is here again outraged, in that the narrow octagonal tower is as high as the square one; in fact, it looks a trifle higher. Cut it down about a fifth of its height, and the general appearance will be improved; then make it square, instead of octagonal, or, if you prefer, make both octagonal, and you will again have unity; but the unity of two unequal, instead of two equal, masses, of which there are abundant examples everywhere.

It is by such methods of comparison that I have made certain generalizations and stated them as brief formulas. Any one, by observation, may do the same, and may reach the same or other conclusions. It matters little in just what words the conclusions are phrased: the important thing is that there should be some conclusions, that architectural composition itself and the criticism of such compositions should be brought from the purely arbitrary methods hitherto used, and reduced to some semblance of order.

I am strongly inclined to suspect that the same rules will apply to all kinds of art, or possibly broader rules, comprising these as special cases; and I have shown examples of their application to painting. My acquaintance with other arts is not sufficient to permit me to include them all.

*John Beverley Robinson.*



Fig. 18. Gateway, Cairo, Egypt.

Another example and a far more flagrant one, showing the unpleasing effect of connecting two dissimilar masses.

# Utilitarian Architecture at Chicago

## I.

The questions that a few years ago agitated the Architectural League of America and at one time came near precipitating a new "battle of the styles" between opposing camps, are beginning to show signs of settlement in the middle west; not as the result of argument, but, as might naturally be expected, of evolution. In the shibboleth of one party—"Function before Precedent"—there now appears to have been a prophecy. The evolution that is now evident has not been in the gradual modification of preceding styles, though there has also been considerable of this of late, but it has been largely manifest in one class of buildings in which is seen the willingness of investors in utilitarian property to give it a distinctive and attractive character, within the bounds of economy. This has encouraged architects to give serious study to the design of such buildings, when before, four common brick walls with the necessary holes in them for light and entrance, skylights on top and coping to protect the top of the walls from the elements were the only essentials in the design of the exteriors of warehouses and manufacturing buildings if such can be called "design." Evidences are seen, not only in Chicago but at other manufacturing and commercial centers, of the recognition by business interests of the value of good materials and workmanship and appropriate design following the functions of buildings required for business purposes.

It would be unfair to these interests to say that designs were forced upon them by architects where before the four common brick walls of the "honest contractor" were considered to be the only essentials for such structures. The value of good building and appropriate architecture is being appreciated even by those who build only for profit, and it is in this class that a revival of architecture for all classes of buildings must logically be expected. Further-

more, no permanent revival can be expected except where it is accepted and appreciated by the public at large, as seems to be now the case.

It will not do to give too much praise to the architects who are credited with their part of this advance in the design of unpretentious business buildings. Time was when architects were too fond of grafting upon utilitarian buildings architectural details which had no relation to the purposes to which they were to be devoted. They used to be smuggled into the plans with the hope that the owner would not detect them. The result was dissatisfaction. Architects were accused of advertising themselves at the expense of their clients, and they were punished by being given the "cold shoulder" in succeeding operations. Sometimes the owners were the ones who sought to advertise their business by erecting pretentious buildings on sites of considerable prominence. They generally succeeded only in securing a lot of cheap and meritricious ornament ill-suited to the purposes of the buildings. They were failures from every point of view.

But within recent years the general dissemination of architectural education and the consequent acquirement of good taste by American architects, has enabled some of them to give rational expression to utilitarian buildings which it has fallen to their lot to design. These have not failed to attract the attention of other investors, who have seen in them an expression of the functions of the buildings without unnecessary expense, very different from those heretofore covered with meritricious ornament.

The public are now able, through what has already been accomplished, to appreciate the difference between a building erected with plain materials, whereon are displayed a few details derived from the historical styles, native only to monumental buildings of great cost, and



one in which the materials and workmanship are of good and lasting character, devoid of all ornament, but relieved from monotony by the best disposition of its parts to express its function. Such a building as that last mentioned is always attractive by its good proportions alone. The only item of increased expense is found in the better quality of the principal material used on

It must not be forgotten that investors erect such buildings only for profit, and if the architect indulges his fancy beyond the necessity for making a paying investment it is very likely to be fatal to his future practice in such specialties. If a considerable number of investors had not appreciated the fact that good design carried to a certain point was a good investment we would see no more of it. But enough has already been done to lead to the reasonable presumption that a rational style has already been conceived, call it what you will.

Chicago is very near the center of such a movement, but is not the only place in which it has been manifested. The number of new buildings of this character cannot be stated with any accuracy, but probably up to the present time as many as one hundred manufacturing buildings and offices connected therewith have been erected in that city and its vicinity, which give evidence of rational design and common sense construction. A great number of them, probably a majority, are fire-proof. When built for rental purposes they are attractive to tenants and are quickly occupied. Many others are now in process of construction.

In addition to manufacturing plants the same character is given to what are comprised in the class known as "wholesale" buildings in the heart of the city. In the latter class great economy has been accomplished. Whereas before it was considered necessary to give them an "architectural" character by the use of cut stone ornamented with details derived from the historical styles, now the honest paving brick is in evidence, with a limited amount of terra-cotta. Colonnaded first stories are disappearing and iron is little used except for interior construction.

To illustrate to a slight extent the progress of this phase in modern architecture is the main purpose of these articles. Whatever the evolved style in their design may be, it can not be named. It is neither the "new art" of Germany nor the school of certain architects in the Middle West who have done so much good and original work in recent



Fig. 1. Kling Bros. & Co. Clothing Factory. Chicago. Nimmons & Fellows, Architects.

its exterior. For illustration, whereas, what are universally known as "common bricks" were formerly used on outside walls, a better quality, but not the most expensive, known as "paving" bricks are generally used. Of these there are many kinds and colors, according to the conditions and facilities of the locality in which the building is erected.

years in the design of buildings for other than business purposes. It is only in sympathy with them in its negation of so-called architectural "precedent."

It would be an injustice to many of the most accomplished architects of Chicago and the Middle West to claim that the buildings here illustrated show all the progress that has been accomplished in the design of utilitarian buildings within recent years. There are those who adhere to the precedents and still have done much useful work in which the old predilection is seen. But their work in this field is noted for its sobriety and a strict regard for the value



Fig. 2. Railway Terminal and Warehouse Building.  
Chicago. Nimmons & Fellows, Architects.

of good and plain materials, and admirable proportions, while it betrays the old love in details which the professional expert only can detect. But this also is evolution, and something very different from what we used to see ten and twenty years ago. A few of these also will be illustrated.

Up to the present time there is no evidence of this field being invaded by the cheap and ignorant imitators. Every new movement in architectural design in America that has attracted attention has been parodied by imitators who have seen nothing in it but external manifestations. Ignorant designers, without understanding its meaning, and

consequently without sufficient appreciation or knowledge to join any new movement in architectural design, when the opportunity falls in their way, regard it merely as a fashion and attempt, always without success, to reproduce only their external details. This was seen in the early part of the nineteenth century when the classical Greek and Roman buildings designed by Bullfinch, Latrobe, Hoban, Hadfield and others were so extensively and untruthfully copied in the many large residences built throughout the Southern states and public buildings in the North. These were generally wood and plaster shams in which the Greek and Roman details gave no evidence of the authority found in buildings of the Ancients. The attempts of a few earnest students of Mediaeval Art to follow the Gothic revival in England were also parodied to such an extent in the latter part of the nineteenth century that the true and the false work were confounded in the eyes of all who were not sufficiently versed in the movement to distinguish the one from the other. This kind of weak imitation was called "Victorian" in England and "Eastlake" in this country, and such the uninformed observer understood them to be. Even the robust work of Richardson and his pupils founded on the Romanesque of the eleventh and twelfth centuries was ignorantly copied by ignoramus until it became nauseous to those who had accepted and admired the work of the master.

But the increase of academic education in the architectural profession of recent years has been accompanied by a decrease in the number of ill-informed architects who have no pride in anything but getting the job, being "up to date" as they vulgarly say, and getting all they can out of it. Popular appreciation of the appropriateness of architectural design to the building to be created is becoming evident through the influence of the *Architectural Record* and other publications, not strictly technical, which have done so much in recent years to popularize this art. The intelligent critic is abroad at last, and the public are beginning to realize the difference



between the good and the bad through the dictates of reason, if not always as the result of technical education.

The illustrations offered are given without extended descriptions. They will at once be recognized as different from the common run of such buildings.

they are the results of co-operation between architects and clients and a desire to work together for the solution of practical business propositions in the interest of those who have to pay the bills. I have the best reason for saying that these buildings have been erected



FIG. 4. ENTRANCE TO OFFICES OF W. M. HOYT CO.'S BUILDING.

They are none of them beyond criticism. As a whole they may be regarded as footsteps in the progress of our art and as earnest efforts of a number of persons to emancipate themselves from scholastic rules made by older generations with whom we have little in common. But if they are nothing else

ted to the satisfaction of their owners; even that they take pride in them. To the public they are evidences that a little art is appropriate everywhere, and that architecture does not pertain alone to public monuments and the houses of the rich, but that it has its field in the domain of business and in places where



Fig. 3. Wholesale Grocery of the W. M. Hoyt Co.  
Chicago. Nimmons & Fellows, Architects.

formerly was only dreary monotony and shabbiness galore.

The movement has invaded localities heretofore regarded as most uninviting to architects. As such it is becoming a civilizer that is literally making the waste places to bloom. Where heretofore the workman approached the forbidding walls of the prison-like structure in which all his hours of toil were spent, he now beholds a vicinage suggesting cheerfulness and contentment which are of no small educational value. There is some prospect that a "factory neighborhood" will not always be a blot on the map of an industrial municipality. In such places a little art goes a great way.

The readers of the Architectural Record have already been given illustrations of several manufacturing plants and business buildings distinguished for rational design, the result of thorough



Fig. 5. Federal Cigar Co.'s Building.  
Philadelphia, Pa. Nimmons & Fellows, Architects.

study on the part of architects and co-operation with their clients. They have been drawn from cities far apart, but still are illustrations of what has herein been said. Those here given are mostly from one city and show what may now be considered as a movement in one direction that has added importance on account of its having been the work of many persons acting almost simultaneously.

The architects who have had the largest and longest experience in the erection of manufacturing buildings at Chi-



Fig. 6. Cracker Jack Building.  
Chicago. J. C. Llewellyn, Architect.

ago are Nimmons and Fellows. They are credited with having been the first to introduce the "saw-tooth" roof on factories, giving north light through nearly the entire roof space. Such roofs were originally used for one story factories covering large areas. They are now used also on roofs of buildings of many stories in which the upper story is reserved for processes requiring the greatest amount of light attainable. The exterior designs of their factories have been an evolution in their own practice from conventional to unconventional design. One of the latest here given (Fig. 1) is a clothing factory at 291 Fifth avenue, in the wholesale district. It has one finished front only, because on one side it is built to the lot line, and on the other it takes light from a





FIG. 8. MONTGOMERY, WARD & CO.'S MAIL ORDER STORE AND WAREHOUSE.  
Chicago: River Front. R. E. Schmidt, Garden & Martin, Architects.

narrow alley. It is expected that this will be eventually obscured by a higher building than that seen in the illustration, which it is interesting to note is a wholesale store of the unconventional type of design that was in vogue about twenty years ago. The contrast between the two is therefore of interest as showing the advance from one form of rational design to a later one. The interior of this building is of reinforced concrete construction.

The Railway Terminal and Warehouse building, shown in Fig. 2, is located at Kingsbury and Indiana streets in a district destined to be built up exclusively with warehouses and factories of similar type. It is of heavy mill construction throughout. Two buildings are here seen. The front to the left, not seen in the illustration, faces on the Chicago river. This building is the headquarters of the Chicago Lighterage Company which transfers freight on the Chicago river. Part of it will be used as a bonded warehouse. Much daylight was not considered essential in the upper stories and small windows are used because goods are piled against the exterior walls, and the windows give light only to passage ways.

The third illustration is taken from a drawing, because the building is so large that a photograph could not be taken from one point to show the whole of it. It is a wholesale grocery building for the W. M. Hoyt Company at 22nd and

Grove streets. It is one of the wholesale groceries which have recently been migrating from the business center to points where water and rail transportation are brought directly to their doors. Buildings of this character stand free and all the exterior walls are similarly designed. This one has an average of 50,000 square feet on each floor. When



Fig. 7. H. M. Hooker Co.'s Paint and Glass Warehouse.  
Chicago. J. C. Llewellyn, Architect.



Fig. 9. Spiegel-May-Stern Co.'s Office Building.  
Front View.  
Chicago. Alfred Alschuler, Architect.

these large establishments. move away from the business center they do not maintain downtown offices, but make extensive and sometimes elaborate provision for offices in their warehouses, and in some cases erect separate buildings for office purposes. Those of the Hoyt Company are in their warehouse and have quite an imposing entrance (Fig. 4). No goods are handled on that side of the building. The interior construction of this building is reinforced concrete and the exterior walls are of dark red paving brick and terra-cotta. Two railroad tracks enter the building in the rear and provision is made for receiving and shipping goods by boats on the river, which adjoins the building on the right of the illustration. (Fig. 3.)



Fig. 10. Spiegel-May-Stern Co.'s Office Building.  
Interior View.  
Chicago. Alfred Alschuler, Architect.

It may not be inappropriate to give here an illustration of one of the utilitarian buildings designed by Nimmons and Fellows, which is not in Chicago (Fig. 5). This is the building of the Federal Cigar Company at Washington and 12th streets, Philadelphia. It is used for the manufacture of cigars and the offices of the company are in the building. The entrance to the latter is



Fig. 11. Tulane Building.  
Chicago. Pond & Pond, Architects.

indicated at the left of the picture by an entablature which gives it more prominence than the other openings. The team entrance is at the extreme right and there are two more street entrances for workmen. This building depends almost entirely for its effective perspective upon its good proportions, the locations and size of all the openings giving evidence of careful study. An added and unexpected effect is due to



the reflection of light from the glass prism windows above the first floor.

Two illustrations are given of the work of Joseph C. Llewellyn. Fig. 6



Fig. 12. Toll and Long Distance Building of the Chicago Telephone Co.  
Chicago. Pond & Pond, Architects.

is called the Cracker Jack building because it is the home of Rueckheim

Brothers and Eckstein, owners of the copyrighted name which protects that firm from infringement in the manufacture of the article so dear to the youth of America. It is located at Peoria and Harrison streets and is one of the manufacturing plants which are invading one of the worst slum districts of Chicago. In the erection of this building the least possible amount of stone has been used. This is a characteristic of Mr. Llewellyn's buildings, seen also in Fig. 7, wherein the most careful study is given to the effect produced by one kind of paving brick with varied projections, and the best disposition of the window and door openings. In the Cracker Jack building the only "effect" is found in the office entrance, on the right hand side. The water tank is properly covered. The second building, which is a paint and glass warehouse for the H. M. Hooker Company at 128 Washington Boulevard is not as successful as the first. The projecting cornice is good as far as it goes, but it does not go far enough. The very fact that it is stopped off after returning a short distance on the court side, shows that, if not necessary beyond that point, it might have been dispensed with altogether. Projecting cornices are pretty well demonstrated to be unnecessary appendages to business buildings by their scarcity in all the well designed buildings used to illustrate this article.

Montgomery Ward & Company's new mail order building on the north branch of the Chicago River, now nearly completed (Fig. 8), is built entirely of concrete, including all of the exterior walls. Its enormous length, 729 feet, about the same as that of the U. S. Capitol, has not been concealed by any device in designing it, but has rather been intensified. Naturally its owners were filled with pride at the satisfaction of having a longer building than anyone else, and did not mind if it were stretched a little. This is done by placing continuous projecting sill and cap courses in each story and making all the windows wider than their height. These continuous courses are omitted at only one floor line, which gives emphasis to the

second and third stories. The completion of the nine stories has now made the building high enough to justify all these devices. The design of this building should be credited to Schmidt, Garden & Martin, as the firm is now styled, Mr. Martin doing the engineering work.

Alfred S. Alschuler makes a specialty of buildings of the utilitarian type. He is the regularly employed architect for the Central Manufacturing District. This must not be inferred to be in the center of the city. It is the corporate name of a land company which controls



Fig. 14. Laboratory of Thomas J. Dee & Co.  
Assayers and Gold Refiners.

Chicago. Hill & Woltersdorf, Architects.

front is a careful study of brick design, but in the cornice and entrance details, which are of stone, is reminiscent of some of the Renaissance forms, showing that Mr. Alschuler has not abandoned them entirely. The refined taste of the occupants is shown in the flower boxes on all the front window sills. The building from the first floor up is in one room, with galleries. The lighting of the outside zone is by windows in the



Fig. 13. Factory of the Pelouze Scale & Mfg. Co.  
View from Southwest.

Chicago. Hill & Woltersdorf, Architects.

a district at least six miles from the center of the city and about half a mile square, all of which is to be improved with buildings of a similar character. It extends from 35th to 39th streets and from Morgan street to Ashland avenue. Already several large buildings have been erected and others are in course of construction. The illustration of Mr. Alschuler's work here given is the office building of the manufacturing concern known as the Spiegel-May-Stern Company and shown in Figs. 9 and 10. It is on 35th street between Morgan street and Center avenue, and in the Central Manufacturing District. It is constructed of reinforced concrete with an exterior of paving brick. The building stands free from all connection with others, but is less elaborate on the other sides than on the 35th street front. This



Fig. 15. Office Building of Brown Bros.  
Mfg. Co.

Chicago. Hill & Woltersdorf, Architects.



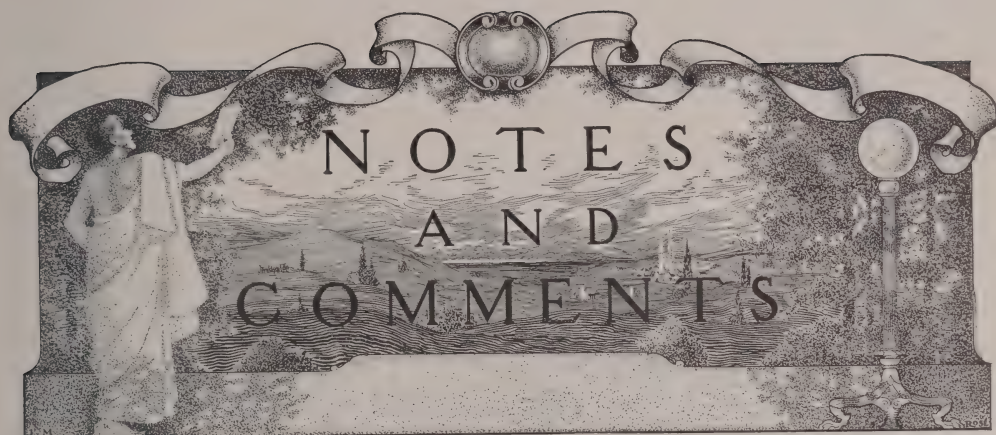
first and second stories. But the entire central section as well as the inner part of this zone is lighted from saw-tooth skylights ranged across the roof and continued the whole length of the building, giving a north light and excluding all sunlight. This light is transmitted through a glass ceiling. It is shown in Fig. 10, which is a view of the office showing the details of its arrangement. This kind of office arrangement was first used in the Larkin Building at Buffalo, designed by Frank Lloyd Wright. But Mr. Alschuler has made many improvements on it. The piers and girders are all of reinforced concrete.

Some of the best utilitarian buildings of recent construction are by Pond & Pond. Among those of the factory and warehouse class is the Tulane building on Jackson Boulevard near Halsted street, shown in Fig. 11. Jackson Boulevard west of the Chicago river for about one mile runs through the West Side manufacturing district and its character is rapidly being changed by the erection of buildings for utilitarian purposes. This building is remarkable for the simple and direct manner in which the lines of construction are developed in the front, and the way in which the entrance stairway and elevator part are indicated, needing no description for those who appreciate plain statements of fact. The second building of Pond & Pond is shown in Fig. 12, occupying the center of the picture. It is the Toll and Long Distance building of the Chicago Telephone Company, on Franklin street near Washington street, and is in the downtown district. On the right is seen part of the original building of the company erected about twenty years ago from the designs of Mr. Silsbee which is of pressed brick and stone and constructed interiorly of steel and hollow tile. It extends to Washington street. One the left is one of the city's fire stations. In the front of the Toll and Long Distance Building is seen the same rational treatment of the entrance section shown in the Jackson Boulevard building. The interior is of steel and tile fireproof construction.

Hill and Woltersdorf have designed a large number of manufacturing buildings as well as independent office buildings connected with factories. Among the former is the factory of the Pelouze Scale and Manufacturing Company (Fig. 13) on East Ohio street in a new manufacturing district near Lake Michigan and north of the main Chicago river, which is becoming famous for the good design shown in the improvements. This building stands free and is finished practically the same on all sides. This firm of architects not only employs paving brick but introduces a large amount of cast concrete on its exteriors, as shown on this and other buildings to be mentioned later. The natural Indiana limestone is used only for water tables and window sills. They have had considerable experience with isolated office buildings connected with factories. Of these one is shown in Fig. 14, which is a front view of the office of the Brown Brothers Manufacturing Company at 22nd street and Campbell avenue. This front is of paving brick with cut stone trimmings. The sign of the company is executed in cast concrete. The entrance is made of cast iron. The company, which among other products is noted for its very fine castings, desired the design of an entrance which they could execute for themselves, and the architects designed this entrance making it as nearly appropriate to the building and the material as circumstances would permit, and the result here seen requires this explanation.

In Fig. 15 is seen a manufacturing building of another kind which did not require great size; also by the same architects. It is a Laboratory building for Thomas A. Dee and Company, gold assayers, and refiners, also located on Ohio street. Working departments and offices are all included in the building which is complete in all its appointments. The exterior, finished on all sides alike, is of brick with trimmings of stone and cast concrete.

*Peter B. Wight.*



## IS THE ARCHITECT A POLYTECH- NICIAN ?

It would be difficult to conceive of any act more injurious to the profession of the architect than the promulgation of a doctrine which amounts to saying that he professes to know all about everything pertaining to building construction. Nothing could more inaccurately state the function of the architect and nothing could be more absurd as a statement of fact. However groundless such a claim is, it has unfortunately been made by implication by some members of the profession and has gained a considerable foothold in this country.

It does not seem plausible that any architect in good standing could consider himself true to his professional principles and pose before his clients as a trained engineer, a specialist in various mechanical professions as well as an expert in the building trades, the services of which are enlisted in executing his designs. With these activities, to master each of which requires an individual's entire energies, the architect can, of course, possess only such a passing acquaintance as will enable him to understand the specialist's explanation, to ask pertinent questions and to choose the most advantageous alternatives for his purpose. Anything further which the architect attempts in an alien profession or trade, as Professor Ware says on a previous page in this issue, "he cannot hope to do more than passably, after the manner of an amateur."

"But amateur work is not what his clients want and he ought not to put them off with it."

## A SUBJECT FOR INVESTIGATION

It would be an injustice to the practical common-sense of American architects to assert that they are responsible as a body for the false position in which some of their number have placed them. On the other hand, it may be emphatically stated that they are not doing everything in their power to discontinue such an attitude which can only bring their calling into disrepute as it exhibits its absurdity. We fail to find in the recent "Circular of Advice Relative to Principles of Professional Practice and the Canons of Ethics," of the American Institute of Architects any direct mention of the architect's relation, in the way we suggest, to other professions and the building trades. Section 4 of the Canons of Ethics of this circular makes it unprofessional for an architect to advertise. Is it not equally unprofessional for an architect to imply to his clients by his actions that he is a fully qualified structural, heating and ventilating engineer and a master mechanic of all the building trades? We think so. Advertising of certain kinds may conceivably affect the dignity of the profession, but a presumption to possess knowledge which is not his affects something more fundamental; it affects the integrity of his position as the client's pro-



fessional adviser. Such a course persisted in by an architect would be more potent to make of him in the eyes of the public, a quack of the first order, than any excess of advertising which the most unscrupulous brain could conceive.

The architectural bodies of the country owe it to the profession to look closely into this matter and to sound a warning to those straying ones who have permitted themselves to assume what is not rightfully theirs.

# A HISTORY OF ARCHITEC- TURE\*

When the unexpected death of Russell Sturgis was announced in the spring of 1909, the first volume of his *History of Architecture* had been issued but a short time previously. There was then a general anxiety among his readers as to whether or not the succeeding volumes would follow. The appearance of the first volume had been long delayed. But it was not known, except to a small circle of his friends, that he had been in declining health for several years, though no one expected that his life would so soon come to an end. The great work of compiling and correcting all the material that had been prepared for the first volume was, however, telling upon his already enfeebled body, and was the cause of the tardy appearance of volume one.

When, after his death, it was announced that volume two was practically completed and partly in type, there was a general feeling of satisfaction. This material was turned over to his son D. N. B. Sturgis, assisted by Prof. Arthur L. Frothingham, whose valuable advice and assistance in correcting the proofs has made it possible to issue the second volume with great promptness. These two volumes, therefore, as now completed, will always be known as the last and greatest achievement of his literary and professional life. It is no less satisfactory also to know that Professor Frothingham is to continue the work to its completion, and is now working on the third and last volume. When complete, this undertaking will be known as the joint work of the two. That Mr. Sturgis had pretty thoroughly made up his mind as to much of the matter to appear in the

third volume is apparent to any one who reads the second. He is constantly referring to matters to be treated in the third, even slight matters of detail, when they will appear in their proper chronological place, imposing a no small task upon his collaborator and successor, but at the same time furnishing valuable assistance. There is no doubt now that this will be fulfilled faithfully and accurately as is anticipated in the publishers' circular which has just been issued, and from which we quote as follows: "The publishers have consequently been highly gratified to secure the services of Mr. Arthur L. Frothingham, late of the Princeton faculty, for the preparation of the third volume, for which he will have the invaluable assistance of Mr. Sturgis's notes. It would be difficult, indeed, to find any one so well equipped to complete this monumental work as is Mr. Frothingham, who has devoted a life of earnest study to architecture and archæology. Educated abroad, principally in Italy, he has long been active as a professor of architecture, archæology and ancient art in Johns Hopkins and Princeton, has acted as a member of numerous societies of research, and has written extensively and authoritatively on architecture and kindred subjects. He is, moreover, thoroughly in sympathy with Mr. Sturgis's point of view, and we can therefore confidently assert that the completed work will present a unified and exhaustive history of the world's architecture from the earliest recorded periods to the present time."

The second volume which is before us now shows even a deeper insight than the first into Mr. Sturgis's understanding of the relation of architecture to civil and religious history, through all time. It bears the impress of having been his own work from first to last, and in it he has drawn liberally from some of his previous published books which now appear to us in the light of preparation for this last and monumental work. It is not easy in a few words to give his point of view as expressed in these volumes. It is only necessary to say that no history of architecture has ever before appeared in the English language that can even be compared with it. It does not pretend to describe or even mention all the important buildings which give reason for its being, and, therefore, it is in no sense encyclopædic. Typical buildings only are selected for illustration, both by word and picture. Being truly a history strict adherence is always given to a description of only that part of any building that is mentioned which belongs to the period under consider-

\*In three volumes, by Russell Sturgis, A. M., Ph. D., author of "A Study of the Artists' Way of Working," "European Architecture," "The Appreciation of Architecture," "The Appreciation of Sculpture," "The Appreciation of Pictures," etc., and Arthur L. Frothingham, A. M., Ph. D., author of "A History of Sculpture," "Mediaeval Art Inventories of the Vatican," etc. The Baker & Taylor Company, New York.

ation. If later additions or changes are considered sufficiently important for further reference he refers to the third volume. An astonishing amount of investigation must have been required to fix the date of buildings erected, for instance, in that part of the middle ages, say from the seventh to the tenth century, the civil history of which is so little known. The evolution of style is traced wherever possible, and the author is always free to admit where it is in doubt. If he cannot give facts he says so candidly, and does not indulge in speculation. Another peculiar feature of Mr. Sturgis's treatment of the subject is the analytical method of explaining self-evident facts, as a result of his investigation of the structural methods employed in ancient buildings. This has been the natural result of his experience in architectural practice and his knowledge of the principles of construction and the nature of materials employed in building. The possibilities of the locality in which a building is situated for the production of building materials at a time when transportation was difficult and expensive has always been in mind.

His extensive travels have largely contributed to his ability to do this, and while much of any history must be compilation from the best authorities, it is evident that in this case a large part of the subjects treated in this volume have come under the author's observations.\* It is known to the writer hereof that many of the illustrations have been accumulating since 1860, for some of them are from photographs and drawings that look familiar now after many years. He has even given the date of some of the photographs used as far back as 1858, and that happens to be the year that Mr. Sturgis made his first visit to Europe after his experience as a draftsman in the office of Leopold Eidlitz, at New York. This material has made it possible to show many buildings as they were before more or less destructive restoration. In order that the reader may not be deceived by some of the illustrations he explains wherever necessary the nature and extent of such restorations as have been made and comments on their propriety or impropriety.

The subjects covered are Book VI., "Asia, apart from the Moslem Influence," comprising, India and Southeastern Asia, the Chinese Empire, Japan and Persia. Book VII., "The Styles Resulting from the Decline of

Ancient Art," comprising The Early Basilicas, Churches of Radiate Plan, The Byzantine Influence and Byzantine Monuments. Book VIII., "Moslem Architecture," comprising Moslem Syria, Egypt, Spain and North Africa, Persia, India and Sicily. Book IX., "The Developed Later Romanesque," comprising Italian, French, Norman and British, German, Spanish, Scandinavian, Armenian and Russian. Some of these have never before been treated in Histories of Architecture in the English language.

P. B. W.

---

#### MORE CIVIC WORK FOR ARCHITECTS

The long annual report of the engineer commissioner for the District of Columbia necessarily gives little space to the discussion of so small a matter as a public convenience station, of which Washington has only two—both on Pennsylvania Avenue. But there is probably an important significance in the few statistics. It is noted that upwards of two and a quarter million persons visited the two stations in the course of the year, and that while there was an increase of 15 per cent. in the total attendance over that of the year before, there was an increase of 60 per cent. in the fees received in the pay departments. This would seem to indicate that the stations are beginning to receive a class of patrons that at first held aloof and that they are taking their rightful place, in this country as they long have in Europe, as among the fit furnishings of the street—as real "public conveniences." The Washington report says that plans are in preparation for three additional stations; and there can be no question that in the near future architects are going to be much called upon to plan these stations for cities.

---

#### CITY PLANNING IN HARTFORD

The second annual report of Hartford's Commission on the City Plan has appeared. The reports are of special interest because this commission is the first to be established in this country as a regular and permanent branch of the municipal administration. The various questions that came before it, mainly concerning the opening, widening and extension of streets are described, together with the action taken. But the most generally in-

---

\*Whenever authorities are quoted from the greatest care is taken to give them credit. This is especially the case with illustrations. References are copious, so that any student can pursue investigations further if desired.



teresting, and perhaps the most significant, part of the report is that in which it is stated that the commission, through the co-operation of the board of finance in making an appropriation, has engaged Messrs. Carrère and Hastings, of New York, as outside experts, to "report upon the development of Hartford in an intelligent and comprehensive manner." In other words, this commission, in spite of all the elaborate and interesting machinery underlying its establishment, has felt it necessary to do just what other cities that have no such commission do—viz., employ outside experts. But when the latter make their report, the commission will prove of immense benefit in securing the carrying out of the plans; and that is the point where other cities are most at a loss. Six pages of the report are given up to "Matters for the Advisory Architects to Consider," and though the list is supplemented by the statement that it is "not by any means complete" and that "many other questions will arise," one would like to have seen the faces of Messrs. Carrère and Hastings when they read it. The fee is modest and the time no doubt is short, but they are asked to advise on matters enough to keep them engaged for dozens of years.

#### CHESTNUT STREET'S CHRISTMAS EVE

There is an undeniable charm of old-fashioned dignity in the quiet residence streets of Beacon Hill in Boston. In repose and lack of ostentation they are not of the America we know to-day. And the story of the Christmas celebration in Chestnut Street, which is one of them, is delightfully reminiscent of another and gentler time. The residents have formed themselves into the Chestnut Street Christmas Association, for the perpetuation of a neighborhood Christmas custom, which is best explained by quoting the notice that was this year sent out to the people of the street:

Greeting: We again bespeak your good will and assistance in adding to the cheer of Christmas Eve by placing lighted candles in the windows of your houses between 6 and 10 at night, to the end that the hearts of passersby may be gladdened and that the day of good will and glad tidings may be fittingly commemorated.

Mr. and Mrs. Ralph Adams Cram.  
Mr. and Mrs. Arthur Winslow.  
Mr. and Mrs. Roger S. Warner.  
Mr. and Mrs. Hollis French.

For the Chestnut Street Christmas Association.

The effect of a street lighted by candles in the house windows, with no shades drawn, is very pretty—as can be imagined; and an

added touch is given to it by the fact that parties of serenaders, lighting their way with Japanese lanterns, visit the candle glowing street on Christmas Eve.

#### A PROTEST THAT IS TIMELY

As so often happens at conventions, a somewhat casual remark, probably quite unpremeditated, was so received as to constitute one of the striking

features at the recent annual meeting of the American Institute of Architects. It was the last day; the retiring president, Cass Gilbert, was presiding, and the subject of the paper that had just been presented was the relation of the railroad to city development. It was perfectly natural, after such a paper, that Mr. Gilbert should give expression to a protest against the common use of the term "city beautiful." "If I were disposed," said he, "to delay, interrupt or confuse the progress of city development, I would publish that phrase 'city beautiful' in big headlines in every newspaper. Let us have the city useful, the city practical, the city livable, the city sensible, the city anything but the city beautiful. We want a city sane and sensible, that can be lived in comfortably. If it is to be a city beautiful, it will be one naturally." His listeners—a body of architects who might almost be said to be picked as regards aesthetic standards—broke into unanimous and hearty applause. The event was certainly significant; and it probably is true that in the new city planning movement, the town planners have no such baffling and persistent handicap to fight against as the reportorial use of the phrase "city beautiful." The men who are doing most to make cities beautiful, long ago gave up the use of the phrase, for they found in this as in other arts the secret of beauty lay in adaptation to purpose and co-operative harmony of parts. The writer of this note left the room a few moments later, and crossing the lobby of the hotel happened to pick up the advertising "Gazette" of one of the trans-Atlantic steamship companies. At once his eye fell on the caption, "Making Cities Beautiful." It seemed an interestingly immediate verification of the need for protest. The article opened with these words, "City building in accordance with artistic principles is being reduced to a science in Germany. To-day scores of cities in the Empire are studying, planning and adjusting old to new conditions, with the

result that ugliness is being replaced by beauty, and the health, convenience and safety of the people very much enhanced." This is not a bad statement of the situation, if one takes the trouble to read beyond the title; and perhaps along with the protest there should be put forth some effort to explain what the beauty of a city properly means and how it is to be attained.

### ART POSSESSIONS OF CITY OF NEW YORK

The catalogue that has lately been published by the Municipal Art Commission of works of art belonging to the city of New York is an exceedingly interesting,

and decidedly noteworthy, publication.

Following a brief historical introduction, and the usual indices, there is a catalogue of the paintings owned by the city, arranged in the order of their acquisition; then a catalogue of the mural decorations, and then one of sculpture, the latter grouped according to the borough in which it is. The catalogue of paintings gives the subject, the dates between which he lived—the paintings being all portraits—the name of the artist and the latter's dates; and then a brief description of the painting and the date of its acquisition. The catalogue of mural decorations gives their location, the title, the name of the artist, and his date, a description of the painting, and a record of the signature—which includes the date. The catalogue of sculpture names location, subject and, if it be portrait sculpture, his dates and a statement of his claim to fame; the artist with his dates, a brief description of the work and date of acquisition. Thus the arrangement, while not entirely uniform, is very satisfactory in convenience and completeness, and it will be a surprise to most persons to discover what a very extensive patron of the arts the busy commercial city of New York has been. The collection of portraits began, says the Introduction, in 1790, when President Washington was formally requested "to permit Mr. Trumbull to take his portrait to be placed in the City Hall." The series of governors' portraits was commenced in 1791, and is complete from Governor Clinton to Governor Dix. In 1804 the Common Council commissioned Colonel Trumbull to paint the portraits of "the chief magistrates of this city since the Revolution." Not only did the council thus commission artists; but it occasionally visited in a body a public exhibition of paintings, and sometimes—not even stopping at that—passed resolutions

urging the citizens "to avail themselves of an opportunity to improve their taste" by going to see some notable art work. The Common Council of Brooklyn began in 1834 its collection of portraits of mayors, and carried it on until annexation—in 1898. But patron of painting though the New York Common Council was, it was not until 1852 that it could be induced to expend public funds for sculpture. Nearly all the statues, monuments and fountains within the greater city have been gifts from its citizens.

### HARMONY IN BUILDING

Referring to the recent discussion in this department, concerning harmony of architecture on streets, some interesting material has been sent in. An extract

from W. Shaw Sparrow's new book, "The English House," goes so far as to present an argument for a public Board of Architecture, "maintained by the public and responsible to the public." Says the book: "Many a town has been turned into a patchwork of ill-assorted buildings only because the most public and necessary form of art is commonly treated as a matter for private speculation and for individual taste and fancy. . . . Whatever the restraints under which architecture is now carried on, the results are bad far more often than they are moderately good. No town building, therefore, ought to be put up until the designs have been approved by a Board of Architecture, this act of approving to consider the designs in relation to their site and surroundings. . . . When a street in its architecture tries to babble in a score of different languages, many right things may be found in the wrong places—a very true statement. The National Contractor and Builder of August 15th, called attention to an ordinance in Berlin, lately approved by the municipal authorities, giving power to refuse a permit for a new building on purely aesthetic grounds, even after the requirements regarding fire protection and sanitation had been satisfactorily filled. Under these regulations, the article says, "plans for new buildings and proposed alterations of any kind can be approved only in case they correspond with the general style and character of the surroundings. New structures must not impair the characteristic aspect of the street view of which they form a part. The neighborhoods of certain historic churches are especially designated" as places where particular care is to be exercised. The hampering character of such restrictions as these, actual or proposed, is not



likely to be the most favorable stimulus to architecture; but it is clear that a good deal of serious thought is being given to the subject of securing harmony of construction on city streets, the indirect influence of which is sure to be beneficial.

**TRIGGS  
ON  
STREET  
ARCHITECTURE**

Possibly the most satisfactory discussion of the subject of harmony in adjoining buildings is to be found in H. Inigo Triggs' recent volume "Town Planning—Past, Present and Possible." "Street architecture," he remarks, "is social architecture, and ought surely to conform to those rules of convention by which all society is governed. It should not be possible for any one freeholder to erect some vulgar monstrosity as an advertisement, when by such building he entirely destroys the artistic harmony of the street. There is an ever-growing need for a cultured and wide censorship. . . . There is as yet no sufficient standard of public taste to entrust such censorship in the hands of public officials, but with such a number of societies devoted to the encouragement of the fine arts existing throughout the kingdom, there should be no difficulty in obtaining expert assistance to form committees of advice. "The subject," says Professor Beresford Pite, "is one of great difficulty and complexity, and unless the control is in the first place wisely directed, in the true interest of successful architecture by highly competent hands, and in the second is so entirely firm by enactment and covenant that it cannot be broken away from, the experiment will not be successful." Triggs adds: "The first question with regard to street architecture which we have to ask ourselves is, How far is it desirable to insist upon architectural uniformity and symmetry and to call upon owners to conform to any general style of building? The question is one in regard to which it is not easy to formulate any principle that will equally suit all classes. Style in architecture is largely a matter of fashion; thus a century ago it was generally accepted that a street should form a design as a whole, and we had in London such examples as Regent Street, the Adelphi, and many other streets. As the nineteenth century progressed, the Gothic Revival movement led the sympathies of architects and artists to favor a more picturesque treatment. Now we have for some years shown a marked tendency to return to classic forms." His

own judgment is then given as follows: "There are some positions, as, for example, a street leading to an important architectural termination, a circus or a geometrically laid out curve, when a great deal is to be said in favor of the uniform treatment of the whole in subordination to one design. The sweep of a curve, seen against the skyline, should be unbroken, save by small details such as chimneys, and in this case a symmetrical treatment of the street façade is the only one likely to be successful. The beauty of a circus or quadrant depends entirely upon the surrounding buildings being kept at one uniform height. If it is not so treated, the best quality, the continuity of the curved line, is lost. Again, when a street is of more than average width, is not very long, and is to be occupied entirely by buildings of one class, a uniform design gives a dignity which no other treatment can impart. Where it is decided to adopt such a uniform scheme in a street of business buildings, the objection that is generally made is that here and there an elevation may be provided which is unsuitable to the requirements of the tenant; but this is a difficulty that would occur whenever the property was vacated, and yet buildings are not pulled down to suit each successive tenant, and in these days of short leases such consideration should not be allowed much weight, when the question is one of spoiling a scheme that depends entirely upon the continuity of its architecture. To preserve a symmetrical effect it is of course not essential that each building should be an exact repetition of its neighbor. Rather, an effort should be made to obtain a symmetrical arrangement by blocks of similar design, and monotony of detail should be avoided by minor variations in the elevations without destroying the design." But his conclusion favors in general picturesqueness. He says: "With the exceptions indicated, the picturesque variety of architecture that characterizes our modern streets should not be discouraged. In what may be termed ordinary streets, which do not demand a grandiose effect, an irregular is often preferable to a regular treatment, and is more expressive of the needs of the street, especially if it be a business one. Again, where a street is comparatively narrow, the architectural treatment as a complete design can hardly be a success, as it can never be seen as a whole. In positions dominated by some ancient Gothic building a straight uniform treatment would be quite out of character."



# ' THE ' ARCHITECTURAL RECORD



## CONTENTS

**The Apartment House.....(Illustrated) 205**

H. W. Frohne

**Factories and Their Fire Protection.....(Illustrated) 218**

Franklin H. Wentworth

**The Architectural Treatment of Blank Wall... (Illustrated) 227**

**Two German Bridges..... (Illustrated) 235**

Montgomery Schuyler

**Current European Architecture..... (Illustrated) 241**

Deutsches Museum, Munich

Terminal Railway Station, Leipzig

Town Hall, Bremen

Landständische Bank, Dresden

Banking House for Louis Dreyfus & Cie., Paris

Offices of International Sleeping Car Co., Paris

**Utilitarian Architecture at Chicago.—II.....(Illustrated) 249**

Peter B. Wight

**The Evolution of Architectural Ornament.—I... (Illustrated) 258**

G. A. T. Middleton

**Notes and Comments.....(Illustrated) 271**

PUBLISHED BY

**THE ARCHITECTURAL RECORD COMPANY**

President, CLINTON W. SWEET

Treasurer, F. W. DODGE

Vice-Pres. & } H. W. DESMOND

Secretary, F. T. MILLER

Genl. Mgr., }

**11-15 East Twenty-fourth Street, Manhattan**

Telephone, 4430 Madison Square

**Subscription (Yearly) \$3.00**

**Published Monthly**

Copyright, 1910, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879





APARTMENT HOUSE FRONTS IN CHARLOTTENBURG, BERLIN.

Albert Gessner, Architect



## The Apartment House

Apartments of four and five rooms, gas and electric light, hot water in all bedrooms, burglar-proof safes and vacuum cleaner in every apartment—sounds like the most up-to-date real estate man's announcement so familiar to the apartment house dwellers of our largest cities, where the greatest convenience in urban habitations has become indispensable to their financial success. It might further be added that there are but two apartments to the floor and that every room is on the outside and large; also that the house is such as the family most fastidious of appearances would not feel ashamed to claim as its habitation.

The above is not an advertisement of the most up-to-date apartments on Riverside Drive in New York or on Michigan Boulevard in Chicago, but of a modest apartment house recently completed on Fehlerstrasse in the German capital from designs of architect Herr Kaufmann, of that city, of which, through his courtesy, we are enabled to include a plan and views of the exterior among our illustrations. The house, which it appears from the exterior is four stories high on a high basement, stands on a lot of somewhat

more than sixty feet in frontage and about one hundred feet deep, not to mention that it is set back about fifteen feet from the sidewalk by formal planting and has a spacious garden at the back.

Considering merely these bald statements and making no further inquiries, where in America could one find such an abode which does not, in Berlin even, rise to the dignity of an elevator house? By comparison with such accommodations, what right have we to be so conceited of our "best-in-the-world" apartments? The closer we examine into the subject of our advertisement the more absurd appears our claim to superiority. In this Berlin apartment house is found a privacy and convenience together with a refinement which further inspection should compel us to admit would be difficult to equal, even in our exclusive elevator apartment houses in New York, Washington or Chicago. Yet the families which inhabit such houses in Berlin (and there are now many apartments, a few of which we illustrate, equally good and varying only in individual arrangement) are not tenanted by the favored class which is privileged to choose that kind of an





FRONT OF FEHLERSTRASSE 3, BERLIN.  
(See floor plan on opposite page.)

E. Kaufmann, Architect.

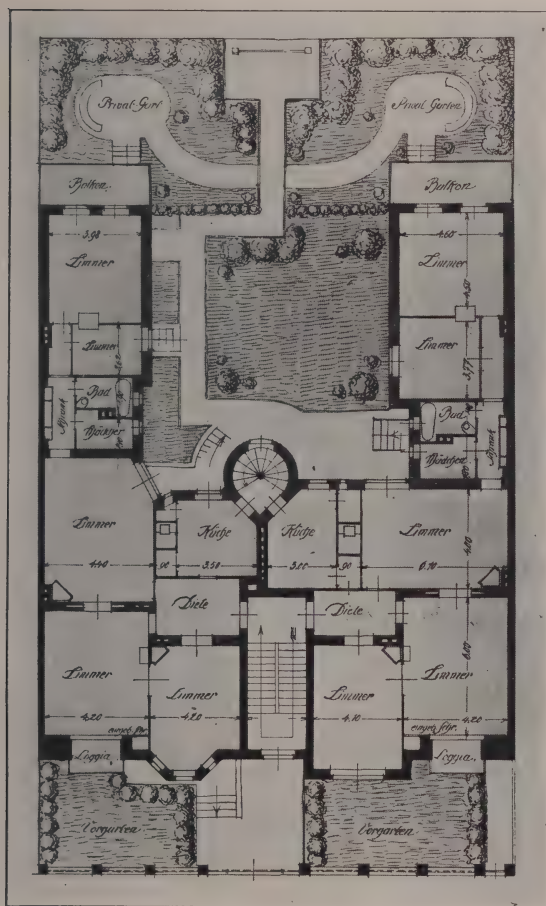
abode to escape the cares of individual housekeeping establishments. The tenants are people of the numerous middle class, like those in our large cities who cannot afford to live in their own houses, but who can afford to spend perhaps from a quarter to a fifth of a modest income for rent. It would mean little to compare the rent of such an

try. There would, in the first place, be raised the objection that the thing is impossible on account of the exorbitantly high price of land. This question our German would answer by saying that his apartment is far from the centre of trade where land is cheap. When one objects that that would not at all do for your excitement-loving city-American, he would wonder why. It is only a short ride on the railroad, which affords excellent service, including a seat for every passenger. But there is hardly any use carrying the argument further. The contemporary Berlin apartment house is rich, however, in suggestion as to how much more we might make of our unlimited opportunities were these opportunities to be seized by more competent agents.

One of the most valuable suggestions that can be drawn from these constructions is our error in persisting to get so many apartments of so many rooms each, out of a given site. The problem is, of course, not solved when this limit has been reached, as we are beginning to discover, particularly in New York. There is little doubt that we have arrived at a solution which involves the lowest first cost for the highest gross rental, but there is much doubt that our solution is admirable and economical in the long run.

In the first place, do not the conditions from which the problem is approached proceed from too short-sighted and often mistaken premises? It is the professional investor who has made it his business and still continues to formulate the rules of the game. His conclu-

sions are not entirely arbitrary, of course. He could not, and would not if he could, proceed to build for investment, without an intimate knowledge of the temper of his prospective tenants. Such a knowledge is his greatest business asset. But is it not rather to the weaknesses and superficial impressions of tenants that he trusts to gain his selfish ends.



Ground Floor Plan, Fehlerstrasse 3, Berlin.

apartment as is described with current rents in this country. The modes of life and the general condition of society are not commensurable. It could, of course, be maintained that therefore the apartment house which is so admirable in Berlin would very inadequately serve as a guide for a habitation of people in like circumstances in this coun-



by persuading them to overlook the really substantial qualities which they have a right to expect in their apartments? Does he not resort to needless embellishment and often worthless sham to disguise the absence of honest reality? Tenants of apartments are made perfectly familiar with the glowing specification of the "ornamental"

apartment houses in this country is their method of financing. It has been pointed out that the professional real estate operator, especially he who operates in the houses of moderate size and cost, is entirely responsible for the frothy condition of this type of structure. This argument is good in that it states the effects of present conditions, but weak



REAR OF FEHLERSTRASSE 3, BERLIN.

Showing the care which is bestowed in Berlin on the appearance of the backs of apartment houses.

entrance with its electric globes, the marble wainscot in the entrance hall, the handsome decorations on ceiling and wall, but hardly a word is said about the convenience of plan, the substantial construction, the safety of the inmates in the event of fire and the generally appropriate appearance of the premises.

It has repeatedly been argued that the great drawback to more substantial

in that it does not reveal the causes thereof. The same argument might, with equal justice, be advanced to explain the generally bad condition of American politics. They are, it is true, in the hands of professional politicians who have brought them to the low estate in which we see them. But admission of the existence of graft in politics does not secure us immunity from the evil ef-

fects of the system, because such admission does not strike at its foundation, any more than an admission of the comparative worthlessness of the bulk of our apartments saves us from more of the same sort of product and its baneful economic effect. The professional exploiter of real estate has made it his business to push his wares to the utmost for precisely the reasons that the professional politician plies his trade. Both of them fill a need, badly, it is true, but profitably to themselves. They continue to control their respective situations because no one is interested enough and bold enough to dislodge them. The voice that should be loudest in protest is silent, that of the public opinion. The silence is not an enforced one, it is one of ignorance. The public certainly is concerned about where it lives. It is in need of enlightenment but knows not that there is a better way or who could be instrumental in finding that better way. The public needs to be instructed to be more interested in the matter of better housing conditions. This deeper interest once aroused will take care of its own development.

The real impediment to stimulating this deeper interest to improve the quality of our apartment house architecture, which forms so large a part of the present building activity of our largest cities, is not the method of financing or the kind of individuals who formulate the requirements which govern their planning and designing. These influences, as already marked, merely explain the results. The obstacle is rather to be sought in the lack of concerted action on the part of the only body who are in a position to reform with authority in such matters—the architectural profession. Would not this subject be worthy of discussion by the American Institute of Architects? The small portion of the enormous total of apartment houses erected annually which it falls to the lot of architects in good standing to design, is only too plainly an admission of the lack of professional initiative in a field of building activity which is

large enough to engage the active and continued attention of a large number of architects who now suffer for lack of business. The statistics of the number and cost of the apartment houses built during 1909 in the Borough of Manhattan alone will give some idea of the extent of this activity. There were 459 of them at a cost of over seventy millions of dollars.

The time is bound to come when the erection of such a quantity of these



Detail of Main and Service Entrances, Fehlerstrasse 3, Berlin.

structures in a second and third rate manner will cease to be profitable enough to attract capital with the facility which at present prevails. Then the methods which now obtain of rushing them up and selling them at as great a profit as possible on their rental returns will no longer be possible. The effect of an already large supply of such struc-



tures fast deteriorating with disproportionate cost of maintenance will have become a warning to further investment in the same line. Meanwhile land values will have continued to rise until they will have reached an altogether artificial limit, when the net return on the investment

buildings of this class, which can be operated and maintained more economically and which are less subject to deterioration, and consequently of the greatest permanence and flexibility of interior arrangement as well as of conformable external appearance.



APARTMENT HOUSE FRONTS IN CHARLOTTENBURG, BERLIN.

Albert Gessner, Architect.

This is a continuation of the street scene shown on the frontispiece and further continued on the opposite page.

will entirely cease to be profitable. When that time comes there is bound to result an economic readjustment which will demand the serious attention of men whose aim it will have to be to produce

This is, of course, looking somewhat into the future, but present conditions point unfailingly towards that consummation. Similar tendencies obtain in some classes of commercial structures,

but nowhere to the extent observable in our thousands of apartment houses. There has, it is only fair to say, been a general improvement in architecture and building construction in this country during the past decade, but that im-

quirements, it is true, for buildings inhabited by more than three families, but these requirements while salutary in their immediate effect have led to no fundamental change of attitude towards the problem of the apartment house. The



GROLMANSTRASSE 3, CHARLOTTENBURG, BERLIN.

Albert Gessner, Architect.

provement has meant for apartments merely certain modifications dictated by the large increase in the number and size of these structures. The law has laid down a more exacting code of re-

building codes have simply provided temporary relief from former barbaric conditions. It is not the law which can fundamentally reform from the present practice of rapidly throwing together





A PICTURESQUE COMPOSITION NOT WITHOUT DIGNITY IN SPITE OF ITS DOMESTICITY.  
 Charlottenburg, Berlin.

Albert Gessner, Architect.

a collection of indifferent materials according to the cheapest possible scheme and covering the whole with a layer of tawdry veneer which lasts long enough to make its impression on the prospective victim. Only a sound public opinion, backed up by competent expert interest, can accomplish lasting good.

There are certain classes of buildings on which the services of an architect are more a matter of technical judgment than of artistic talent, requiring his keenest discrimination between various alternatives of economy. Such buildings are, for example, those built to house some commercial interest, a factory, department store or an office building, or those erected primarily for investment, *e. g.*, a hotel or an apartment house.

It is a curious fact that of these different classes of buildings, all have received considerable competent architectural attention except the last—the apartment house—of which we are here treating, and especially that kind of apartment house which constitutes the bulk of this kind of building construction. Our illustrations are good examples of the way the Germans are building the sort of structures we have in mind, both as to size and as to cost. The apartment house at the corner of Bismarckstrasse and Grolmanstrasse in Charlottenburg is a good instance of a corner apartment house. Charlottenburg bears about the same relation to the center of Berlin as Harlem does to the center of New York. It is reached in less than a half hour by trolley from Unter den Linden, and in ten or twelve minutes by train. During the past five years this section has grown into a large apartment house district. The view of this house shows that ample as are the apartments nothing has been wasted to make the enterprise a paying investment, the entire basement being occupied as shops, with the exception of the space in the rear, which is given over to the janitor's apartment. The house, being on the corner, every apartment enjoys an unusual degree of privacy. The house is of a much more expensive

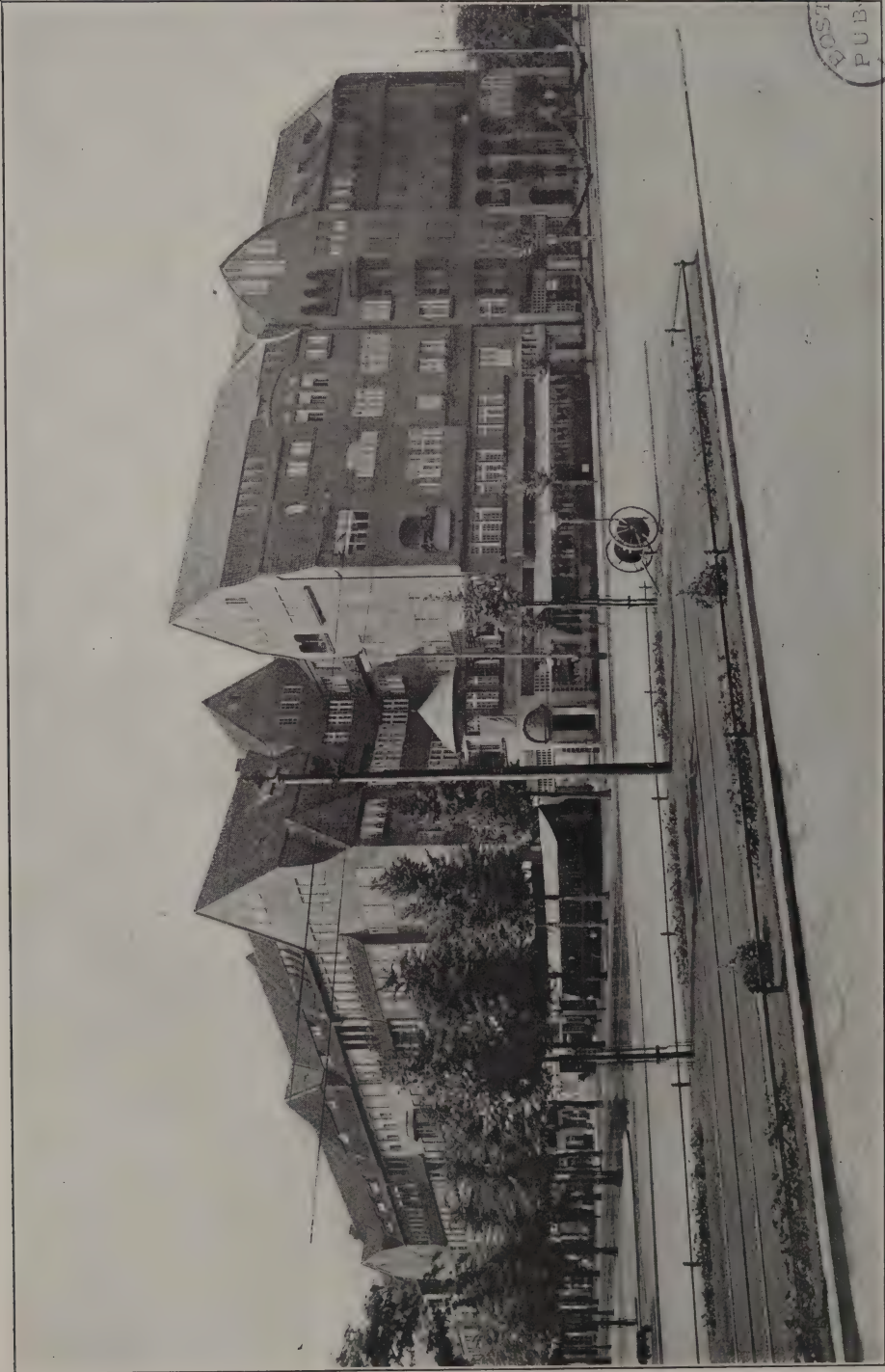
kind than that of the Fehlerstrasse, with which these remarks were introduced. An entrance on each street conducts up a short flight of steps to a platform from which the elevator is entered. The public portion of the apartment is arranged around a *Diele* or reception hall leading from the private entrance hall and entirely cut off from the sleeping rooms and service; long, dark halls are avoided, and the servants are entirely isolated, using their own entrance and staircase and landing in the end of the apartment opposite the kitchen. An interior court (*Nebenhof*) about sixteen feet square lights the staircases, reception hall, bath and toilets of each apartment. With this word of explanation of the planning the floor plans will be intelligible.

If the plan of this house seems carefully studied the exterior bespeaks even greater attention. The first impression is of an extremely interesting composition of architectural masses, more informal than we are accustomed to, perhaps, but well considered withal. The roof treatment is always a conspicuous feature of German buildings and apartment houses are not neglected in this respect. The irregular shape and spacing of the window openings add their share to the total effect of picturesqueness, while the almost universal practice in Germany of finishing rough brick walls with stucco or cement, saves from the appearance of riotousness, a species of treatment which is at times very animated. Some of their facades, however, retain all of their free and charming domesticity and combine with it a certain solid dignity; that on page 212 and one by Paul Lewy on page 216 will illustrate what is meant.

In these German apartment houses there is the fulfillment of a promise which exists equally for this country. The designs bear the earmarks of the trained architect. They are conscientious, thoroughly workmanlike accomplishments, honestly and substantially constructed and have an intrinsic as well as a sociological value. Can we say as much for American apartment houses?

H. W. Frohne.





ELEVATOR APARTMENT HOUSES, ONE OF WHICH IS SHOWN IN PLANS ON OPPOSITE PAGE.

Albert Gessner, Architect.

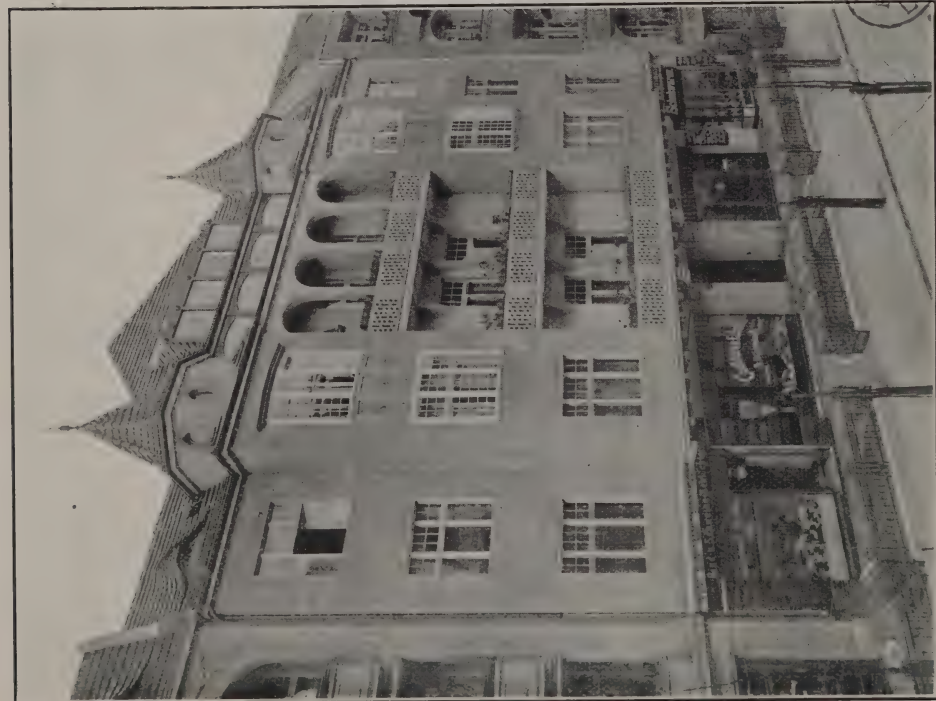


TYPICAL CORNER APARTMENT HOUSE OF THE MORE EXPENSIVE SORT, WITH ELEVATORS.

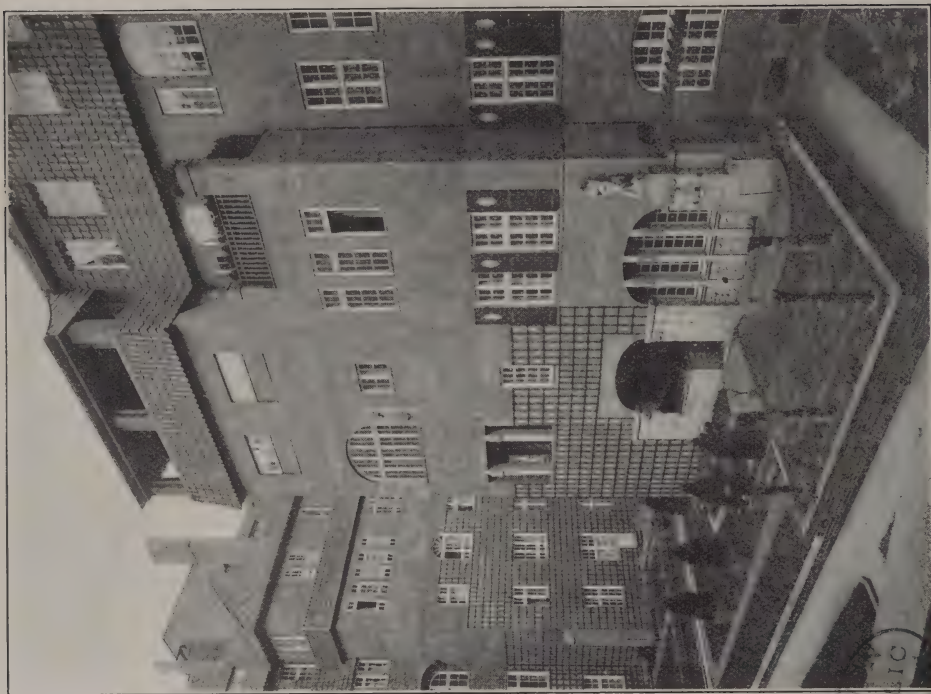
Corner Bismarckstrasse and Grolmannstrasse, Charlottenburg, Berlin.

Albert Gessner, Architect.

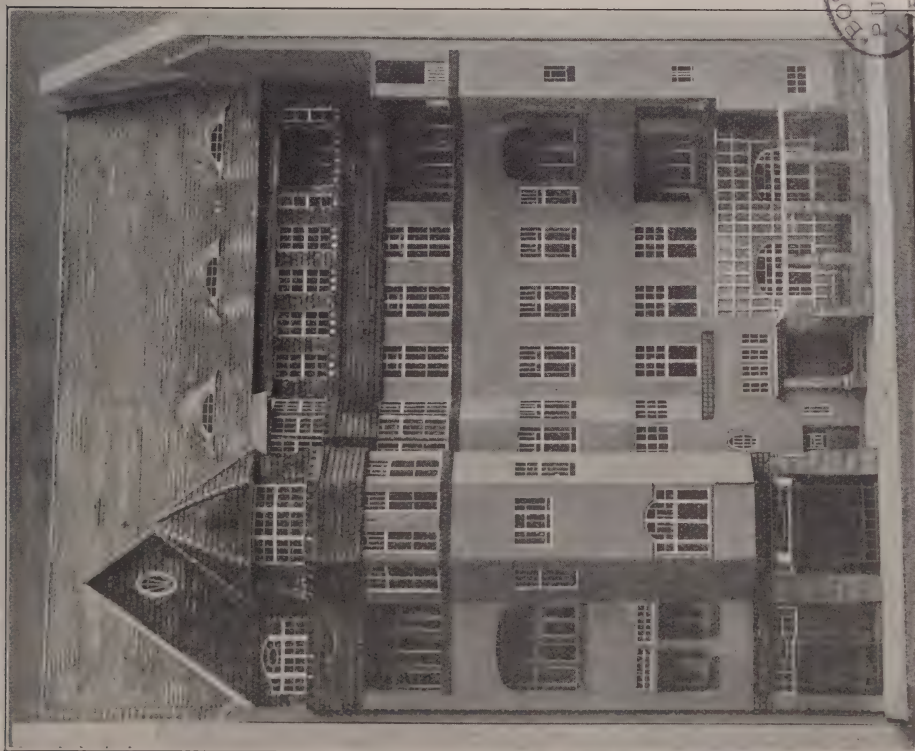




APARTMENT HOUSE FRONT, FRIEDENAU, BERLIN.  
Paul Lewy, Architect.



GROLMANSTRASSE FRONTS, CHARLOTTENBURG, SHOWING  
FORMAL PLANTING IN FRONT OF THE HOUSES.  
Albert Gessner, Architect.



ARCHITECT'S MODEL OF HOUSE IN NIEBUHRSTRASSE 2.  
Charlottenburg, Berlin.



NIEBUHRSTRASSE 2.  
Charlottenburg, Berlin. Albert Gessner, Architect.



## Factories and Their Fire Protection

Architects and builders are slowly entering upon a new phase of their accountability. Just as the architect, whose primary impulse is that of the artist, has been compelled, in the interest of his clients largely, to master the technique of the builder, so both the architect and the builder are now being called upon to protect their clients in the matter of the fire hazard. The enormous aggregate of the American fire waste, which contrasts us so unfavorably with European prudence, is beginning to cripple and impoverish us as the natural resources of the country, once believed to be inexhaustible, are ceasing to respond to the demands of our habitual extravagance. The common notion that the insurance companies pay the cost of fires is gradually giving way to an intelligent understanding of the fact that they are merely the collectors and distributors of the fire tax. They must recover from the public the sums they pay out in losses, plus the cost of conducting their business and a reasonable interest upon their capital. If they could not do this there would be no business of underwriting, and sufferers from fire would be relieved only by direct assessment upon their more fortunate neighbors. It is not certain that a year or two of such direct assessment would not be an admirable educative experiment. At present the cost of the fire tax is merged with everything we eat and drink and wear, and the masses of the people are ignorant of the fact that they bear it.

This is no longer true of the manufacturing classes, however. The manufacturer now realizes that he pays a tax directly related in amount to the character of the building he occupies and the nature of his manufacturing processes; and that, in addition to this, he pays for the carelessness of all his neighbors. If he cannot shift this burden by passing it along to the users of his product, merged quietly in the selling price of his goods, then he must pay it out of

his profits, which cripples him in the competitive struggle.

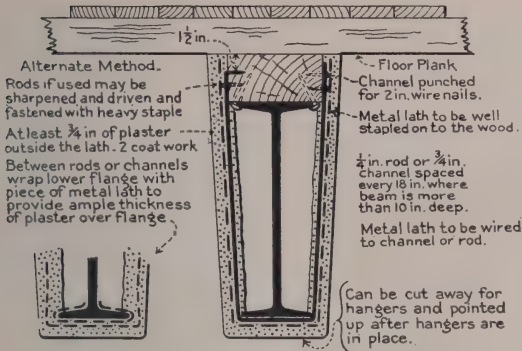
The manufacturer now clearly sees the state of affairs and expects the architects and builders he employs to see it also. If, after his factory is completed, he finds that points respecting the fire hazard have been ignored and that, in consequence of some structural qualification now too late to alter, he is doomed to pay a fire tax, which forethought, with perhaps no additional expense, might have avoided, he may be considerably disturbed by it. Oftentimes structural defects (not mechanical, but from the standpoint of fire hazard), or the unwise location of hazardous factory processes, cannot be overcome after the completion of the building by the addition of special fire protection. In such cases these defects operate as a fixed charge upon the property and contents as long as the building stands.

Fire protection engineering is coming to be a profession by itself, but, after all, its chief distinguishing quality is common sense. The principal demand is that the architect and builder should have a consciousness of the fire hazard; for up to this time very few of them have thought much about it. With the thought of the importance of this item in their minds, no grievous blundering is possible, and technical advice on specific features can generally be had without charge from fire protection engineers in the service of the various underwriters' inspection departments having jurisdiction.

It is the intent of this article to set out certain fundamental principles which may serve as a basis of approach for those who have at yet given no thought to the subject.

Experience in fire protection engineering suggests three points to be kept in mind in planning a factory:

(1) There should be as little combustible material as possible used in its construction and equipment.



SUGGESTION FOR FIREPROOFING STEEL BEAMS.

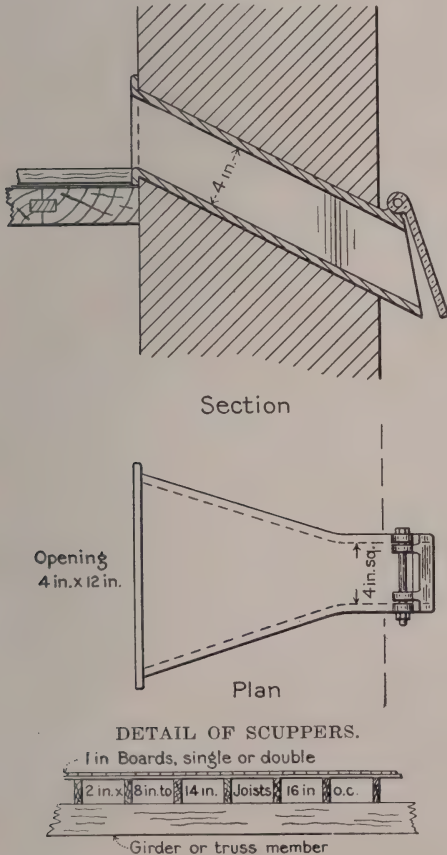


Fig. 1.

UNDESIRABLE CONSTRUCTION.

Fig. 1. Note the large expanse of wooden surfaces exposed to fire and the fact that a slight fire which may burn no more than  $\frac{1}{2}$  inch from each side of the joists practically destroys their strength, whereas a similar fire burning under purlins or timbers illustrated in Figs. 2 and 3 may do but little injury to them.

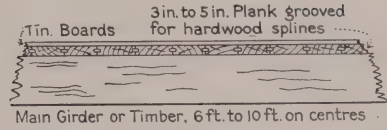


Fig. 2.

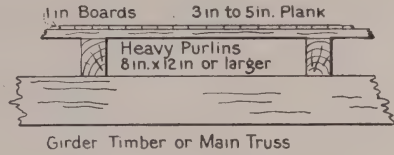


Fig. 3.

GOOD TYPES OF CONSTRUCTION.

Fig. 2 illustrates plank directly on timbers or girders not usually over 10 feet on centre.

Fig. 3 is a type where trusses, posts or girders are widely spaced, necessitating use of purlins to support planks.

Note that an 8 x 12-inch purlin has an equivalent amount of wood to six 2 x 8-inch joists spaced as in Fig. 1, and that the latter expose 108 square inches of surface to a fire as compared with 32 square inches in the former.

(2) Each floor should be absolutely cut off from every other floor, and each section from every other section, so that fire may not communicate.

(3) Every part of the factory should be equipped with extinguishing apparatus.

It is obvious that a factory of reinforced concrete will present certain advantages respecting the fire hazard over the slow-burning or "mill-construction" type; although the latter is preferred by many manufacturers as presenting more convenient surfaces for the attachment of pulleys, shafting and machinery. Slow-burning construction is not undesirable if properly safeguarded and protected.

The advantages of the use of reinforced concrete appear when we consider that with such construction every floor may, by avoidance of vertical openings through it, be made practically a fire wall. The floors being incombustible, a fire in any story may generally be confined to it. In the old-type factory, having open elevator shafts and belt openings from floor to floor, fire quickly ran from story to story and was soon beyond



control of the firemen. It is essential that in all factories, of whatever type of construction, stairs, elevators and belts be placed in fireproof enclosures, with openings to each floor protected by fire doors or shutters. If, in addition to the omission of all vertical openings, provision be made to drain the floors through scuppers set into the outside walls, the possibility of water damage to goods or materials on floors below is much lessened. The standard form of brick or concrete stair and elevator tower may also serve this purpose. If the building, as a whole, is of fire-resistive material, it naturally presents less fuel upon which a fire may feed, and there is therefore less chance of a serious fire if for any reason the extinguishing agents are temporarily disabled. It must be remembered, however, that buildings are often destroyed by the burning of their combustible contents, and in all types of mills and factories the floor areas should be kept down to the minimum limit consonant with convenience and economic operation of the plant. These areas should be divided by fire walls, all openings in which should be protected by standard self-closing fire doors. These precautions minimize the danger of a rapid spread of fire horizontally. All mill-constructed buildings, if of large area, should be divided into sections by special fire walls extending above the roof and out beyond the walls on either side.

Whether exposed to possible fire from adjacent buildings or not, there should be no wooden frames or trim about the windows. Window frames should be of metal, fitted with sashes of wired glass, for under strong draught fire frequently creeps up outside from story to story by means of the windows, consuming the wood trim and igniting contents of the building on each floor. Metal window frames are now constructed that they will stand very considerable exposure to fire without buckling or releasing the glass, and their liberal use in all varieties of buildings is greatly to be desired. The sashes may be operated as conveniently as those of any other window.

It will be observed that all the suggestions made for fire walls, stair and

elevator enclosures, and window openings are as applicable to buildings of mill or slow-burning construction as to those of concrete. They should be followed, as far as possible, in all factory construction and in mercantile buildings as well.

Mill or slow-burning construction presents its own inherent problems. Enough wood must be used to insure strength and stability, but superfluous wood should be avoided. It matters very much as to just how the quantity of timber used may be disposed. The guiding thought of the architect should be to present to fire attack the least practicable amount of wood surface.

For example, a mill planned with heavy beams, eight to eleven feet on centers of continuous spans from wall to post or post to post of from twenty to twenty-five feet, is infinitely more desirable than one of miscalled mill construction having longitudinal girders resting upon posts on which girders are placed four feet or less on centers. The latter construction not only adds to the exposed wood surfaces which may be attacked by fire, but the disposal of the timbers obstructs the action of sprinklers and prevents the sweeping of hose streams from one side of the mill to the other.

No architect with the consciousness of the fire hazard will ever plan for either manufacturing or mercantile occupancy those undesirable fire-boxes known as "light-joisted" buildings. Light joists or rafters two or three inches in width, spaced from ten to sixteen inches on centers, ignite and burn like kindling. Their numerous corners furnish projections for easy ignition. The menace of such construction is generally aggravated by sheathing under the joists. This provides a series of wooden cells, pervaded with concealed spaces in which fire may riot and lodge and dodge extinguishment until the floor or roof is burned through. By the same token partitions of light wood should be avoided.

Timber posts offer greater resistance to fire than wrought iron, steel or cast-iron pillars, and are preferable in mill construction. Experiments made for the Boston Manufacturers' Mutual Fire In-



FIRE IN A BUILDING IN COURSE OF CONSTRUCTION.

The stability of the single 8 x 10-inch wooden timber was not affected, although the 10-inch steel beams sagged and were twisted to a degree which required rebuilding. The wooden beam was used because not enough steel had been ordered to complete the work promptly. In rebuilding, wooden beams were used throughout.



surance Company at the United States Arsenal at Watertown, Mass., show that sound timber posts of the proportion customarily used in mill work yield by direct crushing and not by crippling; the strength being directly as the area of cross-section at the smallest part. The columns yielded at about four thousand five hundred pounds per square inch, confirming the general practice of allowing six hundred pounds per square inch as a safe load. Square columns are therefore one-fourth stronger than round ones of the same diameter, and do not encroach to any appreciable extent upon the floor space. It is the general practice to bore a hole one and one-half inches in diameter along the axis of the column to reduce checking. This should be done in any event, for if posts of unseasoned wood should by any chance be painted, varnished or filled, they are liable to be attacked by dry rot if unventilated. The National Fire Protection Association has recently published a report by one of its members, Prof. Ira H. Woolson, of Columbia University, descriptive of the collapse of a building in New York City from this disease of fermentation of unseasoned posts.

In machine shops and other plants requiring exceptionally heavy floor construction above the ground level, steel beams are frequently called into service. With these, if wide spacings of from seven to twelve and one-half feet are maintained, the advantages of standard mill construction are not forfeited if the steel members are suitably fireproofed. Desired floor stiffness between beams may be secured by making floors of two-inch joists on edge spiked together, the thickness of the floors varying with the loads and span from five to eight inches or more. This floor being practically a single unit, provision must be made for longitudinal contraction by making a continuous joist in the under flooring at intervals, with, of course, arrangement for tying the building together.

One thickness of hard, close-grained floor boards, laid over planks with two layers of resin-sized paper between, is a good floor. A method that is growing in favor in high-class factories is to lay a

board flooring diagonally or at right angles to the plank and over that a top floor of brick or maple, laid lengthwise. This intermediate floor gives great resistance to the lateral strain or vibration. It can be made of cheap lumber, and in many factories is well worth the additional cost.

It is obvious that where steel beams or posts are used they should be properly protected. As steel or wrought iron, when heated, will fail by buckling or bending before an equivalent beam or post of wood will be dangerously affected, it is of importance that steel members essential to the stability of the structure be fireproofed; otherwise a fire in a lower story may bring down in wreck everything above it. Where steel beams support wooden floors they must be fireproofed if they are to resist fire as well as the floors. The accompanying cut gives in detail an inexpensive method of protecting steel beams, and this is also applicable to wrought iron or steel columns. A more substantial method is usually advisable for the latter, however, and protection against mechanical injury near the floor should be provided.

There is another matter which should never escape consideration in building a factory. This is the special fire hazards incident to the character of the factory product. The picker room of the cotton mill is a luminous example, where fire frequently occurs from foreign substances striking the pickers and igniting by the accompanying spark, the inflammable cotton. Sufficient statistics are now available on almost every well-known manufacturing process to indicate just what elements in such process are especially susceptible to fire. Bulwarked by this knowledge, it is prudent to segregate from the principal values of the factory all special processes demonstrated by experience to be especially hazardous. This does not mean that such processes must be carried on in separate buildings at the cost of traveling time and inconvenience. The problem of segregation can now be met without shifting the process out of its logical place in the routine of manufacture. In a fireproofed factory only a separate room,



STAIRWAY OF REINFORCED CONCRETE.

May be built with safety treads to prevent wear and protect edges of concrete. Applicable to any type of factory building. A safe means of exit or for access to upper floors with hose streams. It makes possible perfect separation of each floor from the others.





or, at best, a separate floor, is needed. The manufacturer who, once when he had a fire in some room where volatile oils, for example, were used commonly lost half his plant, or, at any rate, so drenched his premises with water as to make a fortnight's suspension necessary,

guishment without a drop coming through below. The water runs as harmlessly from it as from the deck of a ship.

In mill construction, it is easy to fire-proof the floors and ceilings of any room in which quick, flashy fires are liable to occur. In the picker rooms of cotton



Showing building gutted by exposure to fire. If windows had been of wired glass in metal frames, it is probable that fire might have been kept out of many of the stories, and the contents therein saved.

can now, if he likes, so dispose that hazard as to have a fire every other day without disturbing the other parts of the factory. The modern fireproof room, equipped with automatic sprinklers, having a slightly pitched floor and scuppers at the walls, can be flooded for fire extin-

mills a similar protection to that above suggested for steel beams is often used, the metal lath being applied directly to under side of the planking and around the beams.

With the general outline so far given for his guidance, the architect or builder

will have before him the main points in building construction for the protection of his clients respecting the fire hazard. A consciousness and proper consideration of them may save many dollars in insurance premiums and at the same time

cies. These may appear to be outside the proper province of the architect, but his knowledge of their character and importance will help vastly in the convenience of their installation, and a little preliminary thought about them may



Showing satisfactory fire retardant service of wired glass in metal window frames. Warehouse across 20-ft. alley was totally destroyed. Windows toward rear shown boarded up were broken when side wall of burning building fell.

provide an attractive risk that with suitable further protection can hardly, under any circumstances, prove a total loss. There remains, however, after observance of the points of construction, consideration of the fire-extinguishing agen-

save much tearing out and minor reconstruction. The architects who led the van in providing shafts, channels and runways for electric wires before such conveniences were demanded by inspectors, saved their clients much annoyance.



It is obvious to any well-informed person that the manufacturer who to-day builds without provision for automatic sprinkler protection almost wilfully endangers not only his plant, but the lives of his employees: It is not sufficient that the building be fireproofed. Fireproof is but a relative term. Buildings of fireproof construction are often wrecked and ruined by the burning of their contents. Provision must be made for the extinguishment of a fire the moment it starts. Automatic sprinklers will do this if properly installed with an adequate water supply. Where a sprinkler system fails it will in almost every case be found to have been somehow neglected previous to the fire. Automatic sprinklers, with their increasing adoption, have almost eliminated a kind of fire which used to be especially destructive, namely, explosions of gaseous products generated by previous slow and imperfect combustion in stock or goods. Automatic sprinkler protection should therefore be considered imperative and intelligently provided for, and all concealed spaces or places difficult to protect properly by such a system should be studiously avoided. Vast inconvenience may be obviated by architects and builders giving thought to this point. Ample water supply for the average factory demands two independent sources. One should be by gravity and of sufficient volume and pressure to afford a good supply until the secondary supply can be drawn upon. Pumps, tanks and other details are not within the scope of this article; nor are fire-pails and hand chemical extinguishers, which need no advance provision, being placed in any convenient or desirable location.

The architect should give thought to a stand-pipe system, however, in factories of three stories or higher. They are invaluable for carrying water for hose streams to upper floors, thus making unnecessary the handling of hose on ladders or in stairways, which is difficult and often entails costly delay. They should ordinarily be placed in the main stair towers, or, at any rate, on the opposite side of the wall from the rooms or buildings they are designed to protect. Where buildings are near enough each other for the roofs to afford vantage points for use of hose streams, stand-pipes should be extended to supply roof hydrants.

In factories having loose combustible stock in process, an equipment of small linen hose on each floor is invaluable. It is best to supply this from an independent system of small pipes. It may then be available in case water is temporarily shut off the sprinklers; or in final extinguishment of smouldering sparks after sprinklers have been shut off to save excessive water damage.

There are many other details to be considered in properly protecting a factory from fire, but they are details in which the fire protection engineer is not dependent upon the prevision or co-operation of the architect. If the points touched upon in this article have been made clear enough to enable the architect or builder to gain a general survey of the responsibilities his clients are coming to impose upon him, the absence of technical instruction will not impair its value.

*Franklin H. Wentworth,  
Secretary Natl. Fire Protection Assn.*

# The Brooklyn Heights Casino

## THE ARCHITECTURAL TREATMENT OF BLANK WALL

A quaintly picturesque and highly interesting edifice in red brick and light limestone must arrest the gaze of every passer through Montague Street, near Hicks, on Brooklyn Heights, New York City. In this neighborhood, indeed, the average of architectural interest is high, for the "metropolitan district." If the wayfarer who is "held up" by this particular edifice happens to be a person given to analyzing his own sensations and emotions in the presence of works of architecture, a process which involves some analysis of the works of architecture themselves, he will be moved to reflection.

One of his reflections will be apt to be, how comparatively happy is the architect whose problem allows him ample expanses of blank wall. Of course, to get the good of the advantage, he must not be a blank architect. Melancholy examples are not wanting of blank architects who are so far from living up to their privileges in the article of blank wall that they manage not to "develop," but to "devil up" their expanses. They are possessed by the necessity of "doing something" to them. So far are they from appreciating what one of Dickens's characters calls "the valley of peace and quietness," that they go to work to make the peaceful expanse as fussy and uneasy as if there had been laid upon them the unhappy necessity of occupying it with a huddle of windows. Such pieces of inappreciation we all know, and there is no occasion to name them. But when the other kind of architect, not the blank architect, has a scheme which enables him to introduce a comfortable breadth of blank wall, the beholders of his work, if of a sensitive and grateful constitution, are apt to rejoice with him. Some of our most welcome architectural objects have come about in this way.

The problems are not very numerous which enable or justify this sort of treat-

ment. But when one of them falls into the hands of the right designer it does not fail to conduce to the happiness of his fellow citizens. One of them is an art gallery, an art gallery situated on the upper floor of a building of which the lower floors are devoted to subordinate uses; an art gallery of which the prime requisites are abundant and steady light, which can be best obtained from overhead, and abundant wall space, undisturbed by side lights, for the exhibition of pictures. That was, in effect, the scheme of the old Academy of Design, in Fourth Avenue, and the fidelity with which it was carried out was one of the chief factors in the great architectural success of that building. Be it that the motive was taken, frankly, from the Doge's Palace, with a modification of the two lower arcades, and with the omission of the rather disfiguring huge windows which in the original cut the mosaic of the blank third story. The substitution for these in the modern building of the decorated bull's eyes, with the variations of color in the diaper of the stonework of the blank story, was quite adequate to relieve the monotony of the wall. It is true that the overhead lighting might have been more perfectly expressed. But the building was a great success all the same, and the blank wall counted for a great deal in the success.

An armory is another building in which it is permissible to diminish the openings to the "irreducible minimum" for the purpose of giving more forcible expression to the expanse of wall. This has doubtless been best and most thoroughly done, among our New York City armories, in that which the late Mr. Thomas did for a regiment of infantry, to which he subsequently adjoined quarters for a squadron of cavalry, in upper Park Avenue. Even that comparatively exemplary work, however, would have still been more exemplary if the architect



had fully lived up to his privilege in the way of reducing his apertures. But it would be hard to name any of his competitors or successors in the same line who have done it so much or so well. A brewery is another class of building which offers itself as available for the expression of blank wall. But none of our local breweries has fallen into artistic hands. *Caruerunt sacro vate.*

A safe-deposit building is another class of structure in which, both practically and for the purpose of appropriate ex-

parts of all, forming, as they do, the ultimate abutments not only of the walls which end at them, but of all the openings which exert any lateral pressure upon these walls. And in the Lexington Avenue building the architect felt himself constrained, by the exigencies of his lay-out, to cut the biggest and most important hole in the entire building, being the main entrance, precisely at the base of the angle, which, architecturally, should have been the most unbroken mass of wall in the structure. In the



THE EIGHTH REGIMENT ARMORY.

Park Avenue and 94th Street, New York.

John R. Thomas, Architect.

clusion, it is evidently desirable to reduce the openings to a minimum. Mr. Ware has given two interesting examples on that kind, one at the corner of Lexington Avenue and Fifty-second Street, and another at the corner of Seventh Avenue and Fifty-second Street. It is a pleasure to say that the latter, which is also the later, shows a great advance upon the former and earlier. Not that the earlier is otherwise than very good, as such things go, but it is manifest that in a building of this kind the corners should be the most solid and fortified

later building he managed to shift this feature far enough from the corner to give its arch such a visibly sufficient flank of wall on each side as would effectually abut it. All the same, it had evidently been better for the architectural effect of his work if he could have seen his way so to modify the "lay-out" as to bring the big openings at the center of each front and to frame them in the whole height and expanse of the wall.

A theatre is another problem which invites and requires a considerable extent of unbroken wall, at least in all cases in



Manhattan Storage and Warehouse Company.  
52d Street and 7th Avenue, New York.  
James E. Ware, Architect.

which the stage wall is exteriorly visible. Probably no discerning inspector of the Seventh Avenue front, properly the rear, of the Metropolitan Opera House, ever passes it without reflecting how very much more impressive it is than the Broadway front. I was about to say that the Seventh Avenue front is not "architecturesque" at all. But, in fact, it is architecture in the sense of being disposed and considered with reference to its expression. Here, again, the main opening, the only opening under the gable, seems rather too close to the corner for the best effect. But, being intended primarily as an aperture through which whole "scenes" can be thrust in, it is so narrow in proportion to its height that it becomes in effect a mere slit, which rather punctuates than weakens the solidity and massiveness of the wall in which it is cut. The buttresses are clearly enough, practically necessary reinforcements of a wall which, by the conditions of its existence, can de-

rive no support from floor beams. They reinforce it also to the eye and assist the visible assurance of stability, which, with the sparing but appropriate decorations of the cornice and the gables, make this front, blank as it is, one of the welcome objects of Manhattan.

The buttressing in this rear wall of the Metropolitan, as a symptom of organization and design, is no doubt one of the chief sources of its effectiveness, one of the reasons why it makes so much stronger an appeal to the sensitive beholder than the Broadway front of the same edifice, which has so much more of the ostentation of architectural treatment and so much less of the reality. But take another and much later "stage wall," which owes nothing whatever to the architect, except the choice of material, for good brickwork. I mean the stage wall of the Hippodrome on West Forty-third Street. This is nothing but a sheer cliff of brickwork, in which the breaks and openings, such as they are, simply interfere with the total effect, instead of promoting it. And yet what an impressive total effect it is! The moral, to any architect who appreciates "the valley of peace and quietness," is obvious, especially if he have a well-grounded diffidence in his own artistic powers. It is



Rear of the Metropolitan Opera House,  
New York.  
J. C. Cady, Architect.



the same drawn by that prudent politician, Lord Melbourne, the first Prime Minister of Queen Victoria, when any complicated question arose, full of trouble and danger, and the question was, What was to be done about it? On



The Hippodrome.

43d Street and 6th Avenue, New York.  
Frederic S. Thompson, Architect.

such occasions the wary man was apt to give the counsel—"Can't you let it alone?"

Last of all, among these problems, so grateful to the right architect, and, in case the right architect gets hold of

them, to the right observer, is the problem of the athletic club, the athletic club which inwardly requires absolutely blank and blind walls, tennis courts, squash courts, or what not, lighted entirely from above, and presenting, on the exterior, surfaces to be "treated" by the architect according to his ability and sensibility. The danger, manifestly, here also, is of overtreatment. It happens that we have several exemplary instances in this class on Manhattan Island. Nobody is in danger of overadmiring Mr. Croker's original Athletic Club, at Sixth Avenue and Fifty-fifth Street, which he subsequently unloaded on the municipality as quarters for the Board of Health, to which its architecture is as irrelevant as to its original purpose, having nothing whatever to do with either. Neither is anybody in danger of admiring anything in the successor of that edifice in West Fifty-ninth Street, excepting some rather clever and characteristic detail in terracotta. But the original Racquet Club, at the northeast corner of Sixth Avenue and Twenty-fourth Street, designed by Mr. Thorpe in the early seventies, was a building full of character and interest. The special interest, it is true, consisted in the combination of metal and brickwork in the lower story, which was given over to shops. in the bracketing of the roof, and in the combination of timber and brickwork in the projecting oriels. But the special purpose of athletic "courts," solidly bounded, was not expressed at all. The building was a combination of shops and apartments, with an athletic club, and, while the two former purposes were admirably expressed, the last was shirked. Possibly the building is now demolished (I have not passed that way for some weeks). It might as well be, for some subsequent vandal owner, by means of paint, did his utmost to smear all the character out of it.

Of the successor of this work, of which the primary purpose was ancillary to the building and unexpressed in it, there is no need to speak at length. The Racquet Club in West Forty-third Street has been recognized, ever since it was built, as one of our architectural possessions. The depth, weight, mass, im-

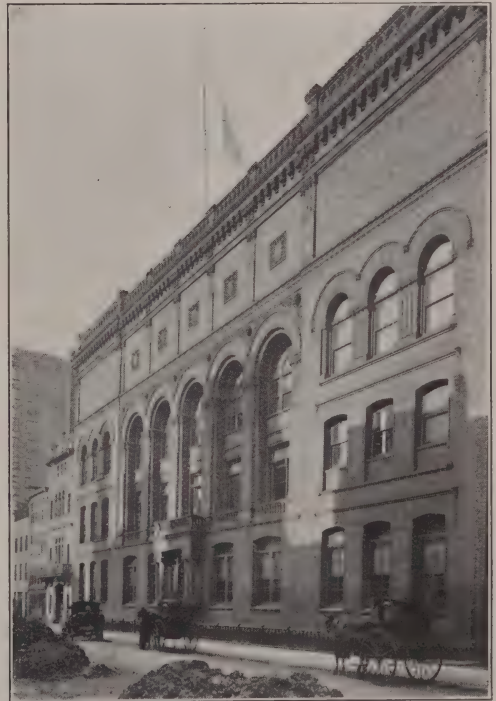


The Old New York Athletic Club, now the  
Department of Health.  
6th Avenue and 55th Street, New York.

pressiveness of that two-story arcade, occupying the center of the building are bound to make their impression upon the most preoccupied or indifferent passer, and these qualities are admirably promoted by the clever and original detail, the best, I think, that its author has given us. But the blank wall of the courts, a series of large panels, with no visible roof, and only, by way of relief, an effective cartouche in the middle of each panel, rather piques than assuages curiosity as to the purpose of its creation. One is rather left at liberty to guess than explicitly informed that these blank walls are, in fact, the enclosures of athletic courts.

Very likely this defect of expression was unavoidable, considering the other purposes of the building, and surely one would not say an inappreciative word about so admirable a work. But Mr. Boring, the author of the Brooklyn Heights Casino, is none the less to be congratulated that the conditions of his problem enabled him to attain the explicit expression which Mr. Eidlitz may have been compelled to forego in the design of the front of the Racquet Club,

and, moreover, enabled him to attain so quaintly picturesque and individual a result, not only without transgressing the conditions under which he wrought, but by the simple and faithful observance of those conditions. For surely the front itself tells its entire story. It is abundantly manifest that something is going on in those side compartments of the second story which requires an unbroken enclosure of wall, and light only from overhead. This light is very visibly supplied by the slanting skylights imbedded in the slope of the roof, which, indeed, one would rejoice to see protected by gabled Dutch dormer frames in imitation of the central gable. The skylight visible at the crest indicates that there are other courts behind, with their separate lighting for their several purposes. The expression is as complete as it is interesting. To be sure, it does not unmistakably proclaim a tennis club, unless one chances to note that the anchors of the central gable are fashioned in the



The Racquet Club.  
West 43d Street, New York.



similitude of tennis racquets. It might be a museum of Dutch art, or a club house with galleries, which, in fact, is precisely what it is, excepting that the galleries are "courts." But it is, in either case, evidently the result of a faithful following out of special requirements, a pursuit of the particular and not the general "architecturesque" expression, and, as such, given skill, it makes a far more vivid and individual impression than a "front quelconque" can ever possibly make.

Why Dutch? some man may say. In fact, the Hollandish badge is only the crowstepping of the gable and the party walls. That would be quite justified by a reference to the origin and history of "Breuckelen," if it needed any justification, which it does not, being quite its own excuse for being. For that Dutch architecture of the sixteenth and seventeenth centuries, of the time of the expansion of Holland and the founding of New Amsterdam, though called "Renaissance," was, in fact, an architecture of craftsmanship and not of formula; had nothing at all to do with the pre-

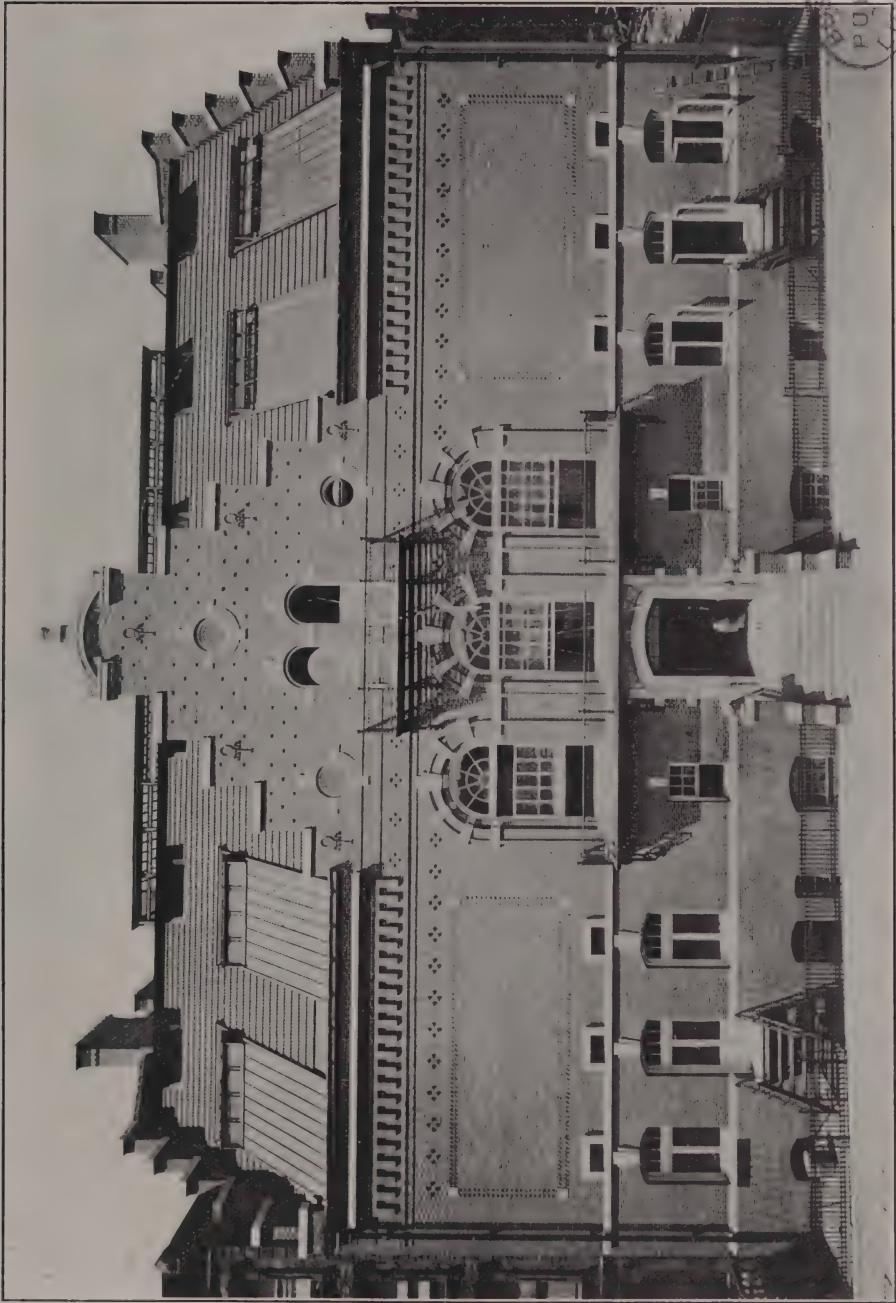
cepts of Vitruvius, was a vernacular and home-grown manner of building, solving constructional problems, as, for example, the coping of a gable, in a manner still altogether eligible. The directness does not fail the modern architect anywhere, not even in his exhibition of the square holes at the main floor line, which one might fancy to be "scuppers," and that the decks within had to be flushed every morning, were he not apprised that, in fact, they are ventilating ducts of absolute necessity in a windowless room. But observe how impressive the expanses of wall are in themselves, the panelation supplying the place of buttressing and avoiding monotony, and how they set off and exhibit the central feature, the triple arcade. The very "leaders" at the ends serve the purpose of the wall shafts of the Gothic architects, and define and emphasize the end walls. The detail, in brick or stone or iron, is all admirably in the quaint and homely key of the entire composition. The right architect is lucky to fall in with such a problem, and the problem to fall into the hands of the right architect.



Berlin.

CORNER APARTMENTS.

Prof. Bruno Möhring, Architect.



William A. Boring, Architect.

THE BROOKLYN HEIGHTS CASINO.

Brooklyn, New York City.





BORSIG BRIDGE—DETAIL OF STONE PYLON.

Berlin, Germany.

Prof. Bruno Möhring, Architect.

## Two Bridges in Berlin

There is, unhappily, no denying that we are still far behind Europe in the artistic quality of our scientific building. We are much further behind in the architecture of our engineering structures than in the architecture of what may be called our "architecturesque" structures. The distinction between the two classes of building is none the less real because it is sometimes difficult to say of a given structure to which class it belongs. The common classification, relating merely to the purpose of the structure in question, is neither a scientific nor an artistic classification. It is not so many years since an engineering body formally protested against the giving by the City of New York of the work of designing a bridge to a firm of architects, upon the ground that bridges were a kind of structures which traditionally belonged to engineering. But that was only a tradition, not a reason. Russell Sturgis, in his "Dictionary of Architecture," has expressed the real distinction in terms that do not leave much to be desired:

Whatever is traditional in form and in structure, whatever is admittedly safe, whatever is known to all practical builders as well within the limit of danger, comes within the architect's province; and nearly all his most important artistical results proceed from the treatment of such building as this. All that is so new or so complex as to require careful scientific examination, based upon mathematics, is the province of the engineer. Some, but not many, modern architects are themselves competent, and up to a certain point, may trust their own computations. Some, but not many, engineers have something of that traditional respect for beauty and significance of form that they may make their own designs for the decorative effect of structures which they have to carry out. The great majority of either profession are men who are greatly in need of the aid of those of the other profession, and what the outcome will be is at present entirely uncertain.

Evidently a bridge may be as "traditional in form and in structure" as a house, and much more "within the limit of danger" than a skyscraper. An out-reaching engineer has indeed maintained in public that a skyscraper was a work of engineering rather than of architec-

ture, upon the ground that most of the skyscraper, excepting everything that you see when you look at it, is the work of engineers. And, in fact, a great part of the architect's work in the skyscraper is a task much like that pious, but ungrateful, one of the sons of Noah, namely, to cloak and dissemble the indecorous nudity of the engineer. It would be a plausible contention that the architect was merely the decorator for the engineer, and the architecture ancillary to the engineering, if the same man who provided the decorative envelope for a structure with which it has in most cases nothing, except mechanically, to do, were not also the author of the plan, of the lay-out, of which whatever is done afterwards is but the execution. The contradiction between the architecture and the engineering in the ordinary skyscraper would be a contradiction in terms if the engineering were displayed instead of concealed. Even as it is, it suffices to destroy the pretension of the ordinary skyscraper to be regarded as a work of architecture or of art.

As it is not to be expected that all or most artistic builders will become scientific, or all or most scientific builders artistic, the only thing to do with structures "so new or so complex as to require careful scientific examination based upon mathematics" would seem to be by collaboration. This, in fact, is where we are so far behind Europe. And the difference is rather in public opinion than in professional competency, either artistic or scientific. A German official commission, sent out here to inquire into our railroad system, some twenty years ago, officially and accurately reported that "public works, in America, are executed without reference to art." It is difficult to imagine such a defacement of a sublime or beautiful work of nature by such an ignominious work of art and man's device as the cantilever railroad bridge across the Niagara or the like structure across the Hudson, being



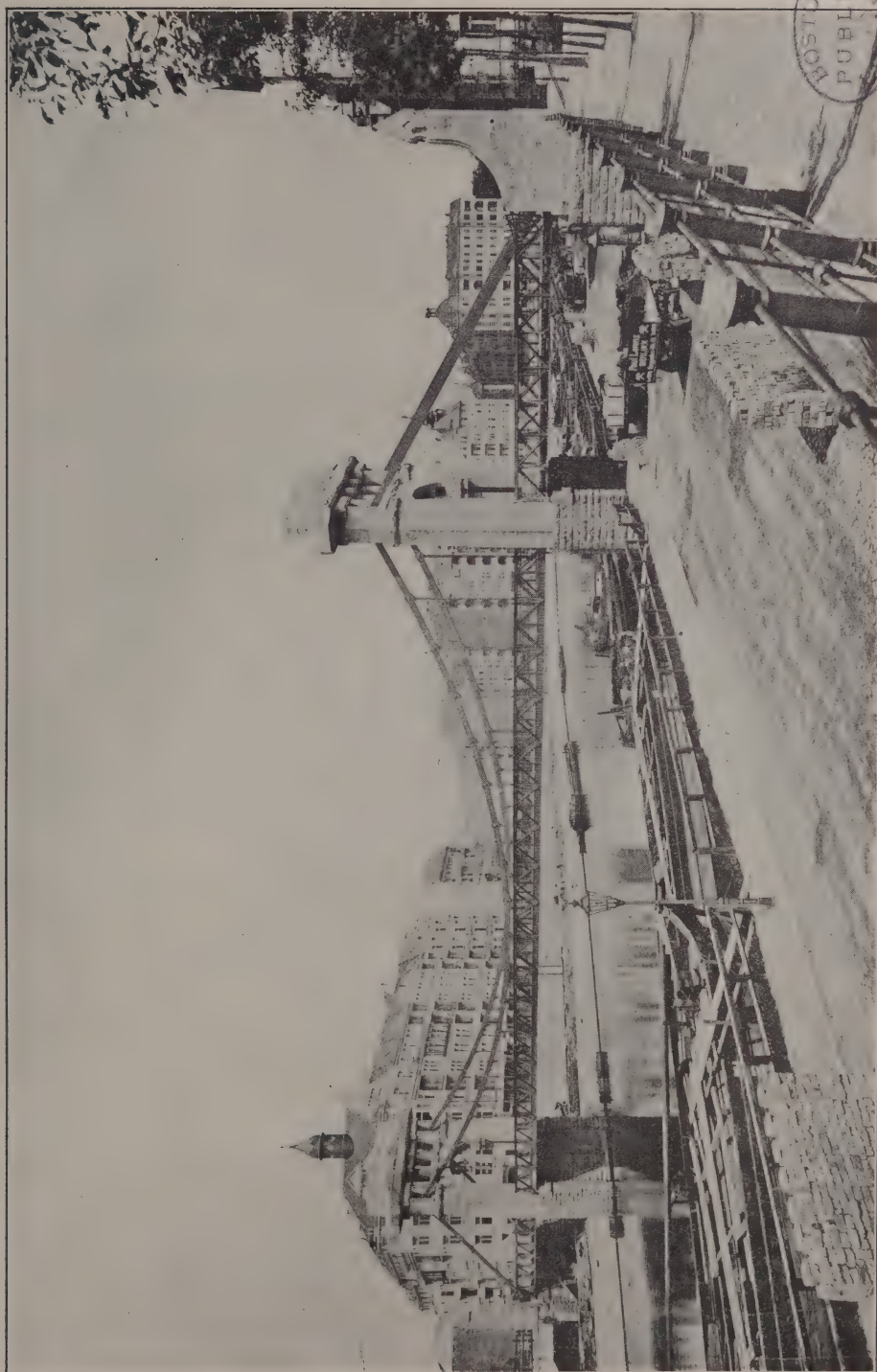
permitted to be perpetrated anywhere in Europe. Yet these two works are highly symptomatic of the usual condition of things in this country. If the engineer of any American railroad were to ask his directors to authorize him to employ an architect to collaborate with him in the design of such a work in order that it might not insult and defile a famous natural scene, there is no reason to believe that, even to-day, he would meet with much sympathy in the "board." He would run the risk of being viewed as a visionary and unpractical person. In Europe, on the other hand, the association of an engineer and an architect is as much the regular thing in an important work of engineering as the association of a sculptor and an architect in an important work of sculpture.

Not that the collaboration leaves nothing to be desired. Too often, the counsel of the architect is taken too late to allow him to give it as to the general scheme. He is apt to be invoked only to add those "unnecessary features," in which, according to Ruskin, architecture consists, to a work already spoiled in the first concoction. Moreover, the school-trained architect is apt to confound architecture with the particular sets of forms in which he has seen it embodied in its historical examples, and so to wrest classics from their original signification, sometimes even in disregard of the material. There are no classical precedents, for example, for metallic constructions. In proportion as a work of engineering is original in its conception, its "scientific" conception, it involves the artistic necessity that it shall grow its own forms. To be successful, the collaboration must, in the first place, begin at the beginning, and in the second place, the architectural collaborator must be a man who is more sensitive to what may be called engineering considerations than can by any means be expected of the common run of architects, even of those who are able to handle historical styles and to complete historical forms.

To let the appearance of an engineering structure take care of itself is the general American tendency in these matters. How could it be otherwise? A

born engineer is at least as little likely as any other kind of man to possess artistic sensibility. He is less likely than several other kinds of men to have cultivated that with which he was born. Moreover, most of the work of an engineer is regarded by him and by his employers as strictly utilitarian. Nothing is required of it but that it shall stand up and do its work. The railroad engineer, as we have seen, runs a risk when he ventures to suggest to his directors that they pay their stockholders' money to enable him to take architectural counsel in the designing of a bridge never so big or conspicuous. He would hardly dare to do it even in those rare cases in which he himself "perceives the necessity," and recognizes that in one of its aspects his work is beyond the scope of his powers and his training. And, at the best, when architectural counsel is invoked, it is apt to be invoked too late. That is to say, the architect is called in to add decorative features and details to a work of which the total effect is already determined. It is at the very beginning, it is in the first conception, that art and science should go together, and that expression should be one of the prime factors in design. Consider that more new forms have been added to engineering, that is to say, of constructions founded on mathematical investigation, in the course of its existence of less than a century, than have been added to architecture in five hundred years. Consider how uncouth so many of these forms are. Uncouth in some cases doubtless by mere reason of their unfamiliarity, but in far more because the construction, the source of the form, is not expressed, and the form is therefore not explained. What a pity that scientific building and artistic building should ever be divorced, when we see in the monuments of the Middle Ages what glorious results they obtained when they were united.

The nearest modern substitute for the mediaeval practice is to associate the scientific designer and the practical designer from the outset. The most admirable of the very great bridges of the world, we may pretty safely boast, are



BORSIG BRIDGE.

Berlin, Germany.

Prof. Bruno Möhring, Architect.



here in New York, the Queensboro and the Manhattan, and they have been produced by this process. The greatest credit is due to Commissioner Lindenthal, who secured the co-operation of Mr. Hornbostel in the engineers' revised design for the former and original design for the latter; and credit, too, to his successors in the Bridge Department who followed his good example by securing the architectural services of Messrs. Carrère and Hastings, when the original design for the Manhattan had been superseded, upon engineering or upon personal considerations. But these great works are almost alone in American practice. The rule is that the artistic success of a bridge depends upon the æsthetic equipment of an engineer who may or may not have any.

"They order these matters better" in Europe. It is true that the architect is apt there also to be invoked only to add features to a work which is made or marred before his arrival on the scene. But this does not happen always. In Europe, too, and notably in France, some æsthetic training is regarded as necessary, along with his technical training, to the equipment of an engineer. Such a beautiful success as the Pont Mirabeau shows the value of a training which enables the receiver of it to express new materials and new constructions in new forms. But, as to the bridges throughout France in general, they are apt to be even less successful in their metal-work, even artistically, than the bridges in this country. They are apt to aim, even in metal, at effects of massiveness, instead of taking advantage, by attenuation and articulation, of the properties of the material. Their architectural features are apt to be adventitious erections of masonry, treated rather academically than vernacularly, applications of conventional forms rather than functional modeling of necessary members.

It may be unfashionable to say so, but it seems to be true that in this branch of applied æsthetics the Germans are in advance of the French. The iron of the "orders" has not entered so deeply into their souls. However that may be, the Germans are immensely in advance of

us. No sensitive reader of the Architectural Record can have looked at the illustrations, in the December number, of the two bridges across the Danube at Budapest without admiration, and no sensitive New Yorker without envy. Had we only as good looking bridges across the Harlem! The Hungarian bridges are by no means tours de force from the New York point of view. The beautiful blue Danube at this point is a big river, for Europe, much wider than the Thames at London or the Seine at Paris, seemingly not far from the span of the Harlem. It is true that the Hungarian engineers have not had to deal with one annoying factor in the New York problem. That is the necessity of a drawspan. In Hungary they do not postpone the traffic of a great city to the passage of a brick sloop. It is arguable that this engineering difficulty ought to be an architectural opportunity, but one cannot point out the engineer who has managed to make it so. But with what joy should we come upon bridges as good as these over the river that divides any American city. One is at a loss to choose between the chain bridge with piers of masonry and the Elizabeth bridge, all of metal, or would be, in spite of the necessarily more monumental and massive aspect of the stone towers, but for the immense advantage the stone bridge has in having its backstays half catenaries, counterparting the curve of the central span, like the East River, instead of straight ropes or rods like the Williamsburg.

Herewith are presented views of two bridges in Berlin in which the ordinary American engineer, it appears, may find matter for reproof and for edification. There is no glory to be got, from a strictly engineering point of view, out of bridging the Spree. If it were in this country, it would probably be called a creek, and indeed we have streams as wide, here in the neighborhood of New York, that are so called. To span it, so far from being an engineering record, or even an engineering tour de force, is not even an engineering "stunt." Yet this "Borsigsteg" might in its architectural aspects, excite the envy of the ordinary



SWINEMUENDE BRIDGE.

Berlin, Germany.

Prof. Bruno Möhring, Architect.





American engineer, and ought to excite his emulation. It is not, it appears, a municipal work, but is due to the enterprise of a land company which has undertaken to open to settlement a tract formerly belonging to the Borsig iron-works, which have been moved away from the capital. Without doubt, such an entrance to a new settlement constitutes an advertisement, an invitation and an attraction which might very well commend it as an example to American realty promoters, if any, who have a like problem on their hands, as that of a seemly and dignified work. Not that it is exemplary at all points. In the view of the portal, for example, one by no means sees the point of crowning smoothly dressed piers with a rock faced colonnade. The reversal of this arrangement would have been much more logical and effective, and would, apparently, have left a balance which might have been spent on the decoration of the little piers, to their great advantage.

The other bridge, the Swinemuende, is properly a viaduct, being a highway bridge projecting to carry traffic across the extensive trackage of the Stettin and the Belt railroads. It is an extensive structure, having a total length of 750 feet, and in Berlin is considered so costly that it is popularly known as "the Million Bridge." The exact cost is given as 970,000 marks of this monument of municipal prodigality, marks, mind you, not dollars. Innocent Berlin!

What is more to our present purpose is that offers an interesting essay in the idiomatic treatment of metal. In this respect it is both more interesting and more exemplary than the Borsigsteg, since there is here no masonry excepting the supports upon which the metallic superstructure rests—rests, observe, and is not imbedded, but remains with a visible power of the "play" and movement which a metallic construction demands. Throughout the work, there is no applied ornament. The decoration is everywhere the exhibition and exposition of the construction, and the work is visibly all of a piece. It is probably beyond the wit of man to make a latticed iron girder

an agreeable object. At least the wit of man has not yet compassed that result. But what may be called the "bones" of the design, the solid longitudinal and transverse members are so shaped and disposed as to expound their own functions, and to give an expression of power which, with all its grimness, is not without grace. And they are very visibly articulated. The emphasis of the junctures by their enveloping bands is one of the points of the design. The architect himself explains that "all architectural details suggesting profiles in wood or stone, from which most architects cannot free themselves, have been avoided"; and he takes no more credit than belongs to him in adding: "It is owing to this that the decoration does not appear as a superfluous afterthought." Assuredly it does not. Although modern engineering, as applied science, is young, beginning only some years after the beginning of the nineteenth century, the art of metallic architecture is much younger yet, beginning not long before the beginning of the twentieth. It has hardly a past. It has an immeasurable future. Its present practitioners are its pioneers. Every one of them ought to be able to say, with Bacon; "I could not be true and constant to the argument I handle, if I were not willing to go beyond others; but yet not more willing than to have others go beyond me again."

If the pioneers of the art still in its infancy can clear their minds of irrelevancies, and observe the principle of "hoc age"—"do what you are doing"—they have the consolation of knowing that, if they are surpassed and even superseded, they will still not be discredited. They are the midwives of an infant but living art, whereas the practitioners of architecture in the old materials who are content to practice it after formulæ derived from the old forms, so often seem but the undertakers of an effete and dead one. To the new and living art the authors of the Swinemuende Bridge have made an interesting and suggestive contribution.

*Montgomery Schuyler.*



Deutsches Museum, View from Erhartstrasse

# RECENT EUROPEAN ARCHITECTURE



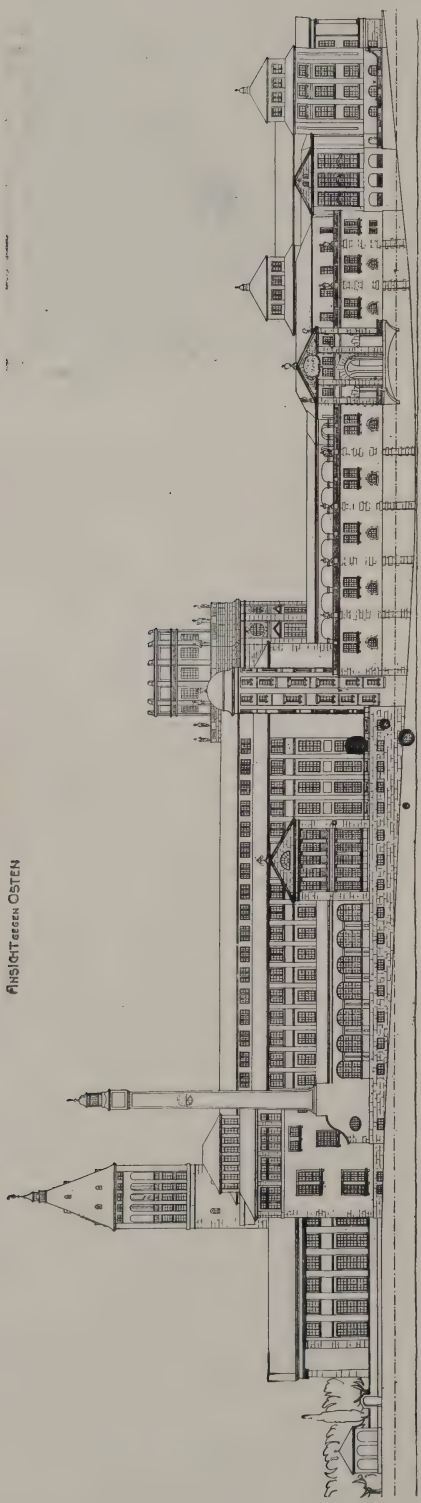
PROFESSOR G. SEIDL—  
Deutsches Museum, Munich

WILLIAM LOSSOW and MAX HANS KÜHNE—  
Terminal Railway Station, Leipzig  
Town Hall, Bremen  
Landständische Bank, Dresden

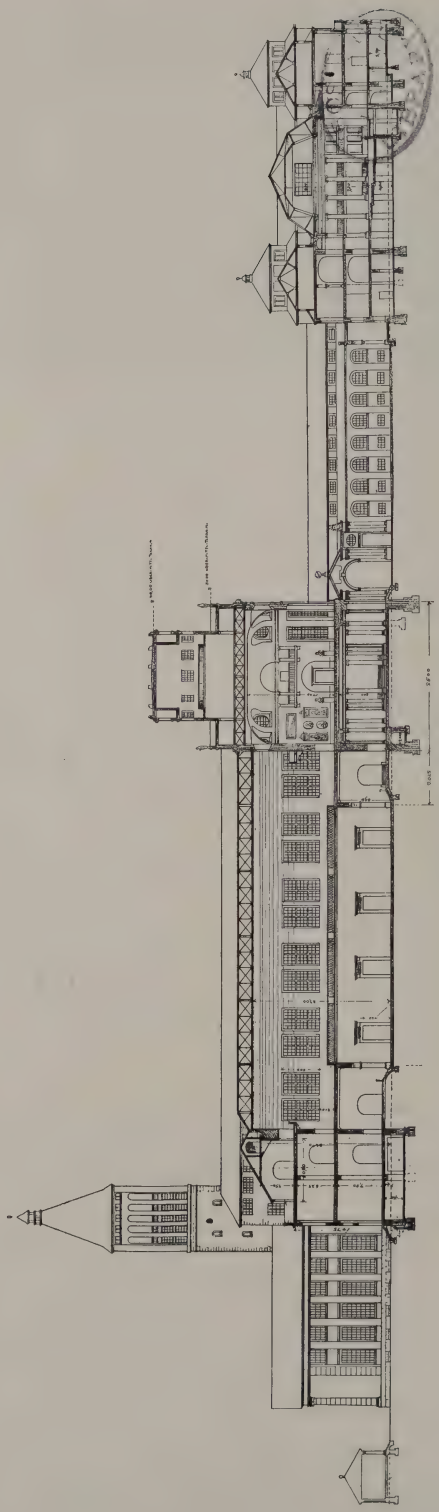
H. P. NÉNOT—  
Banking House for Louis Dreyfus & Cie, Paris  
Offices of International Sleeping Car Company, Paris



ANSICHT VON OSTEN

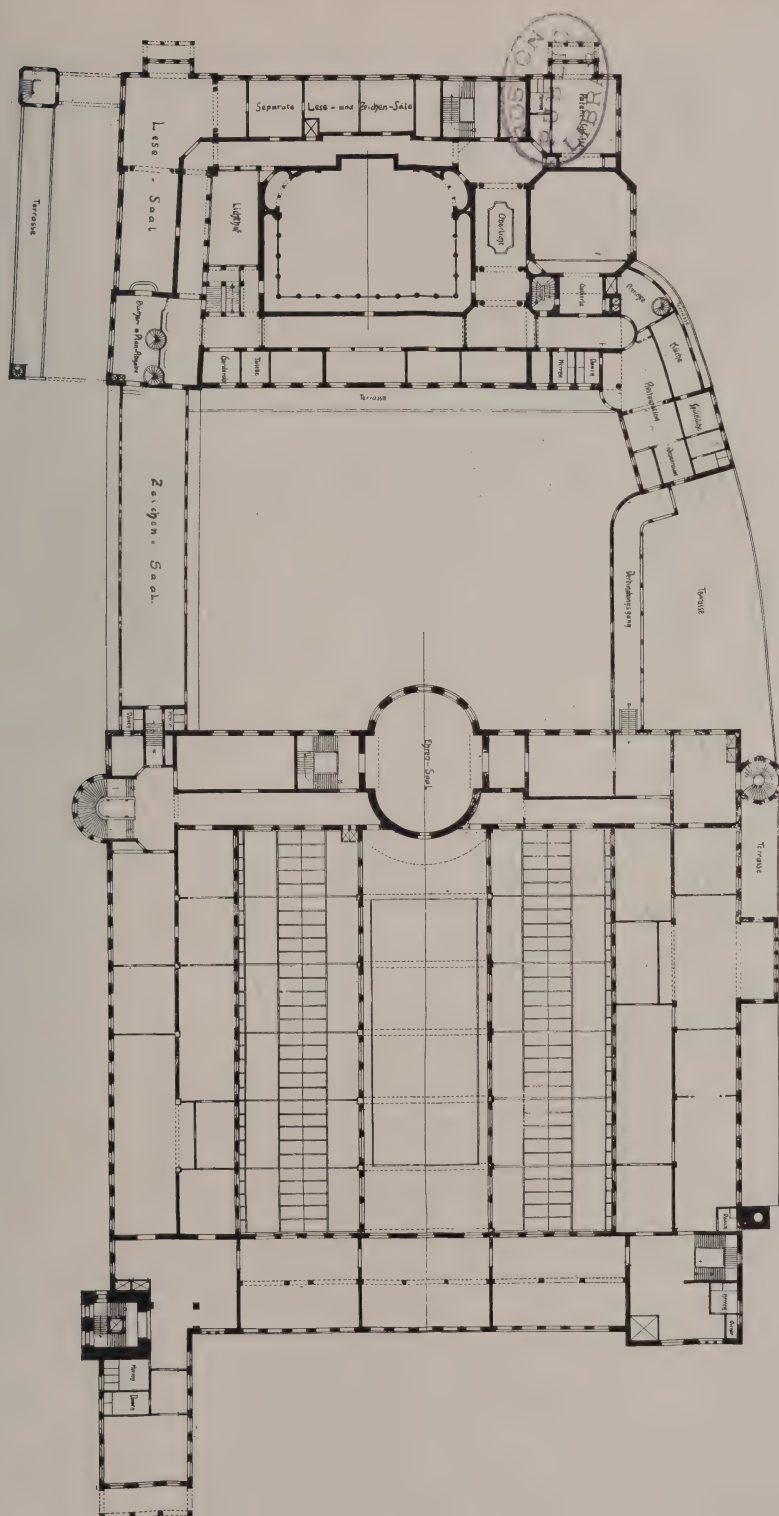


EAST ELEVATION.



LONGITUDINAL SECTION.  
DEUTSCHES MUSEUM, MUNICH.  
A Museum for the promotion of the arts and crafts.

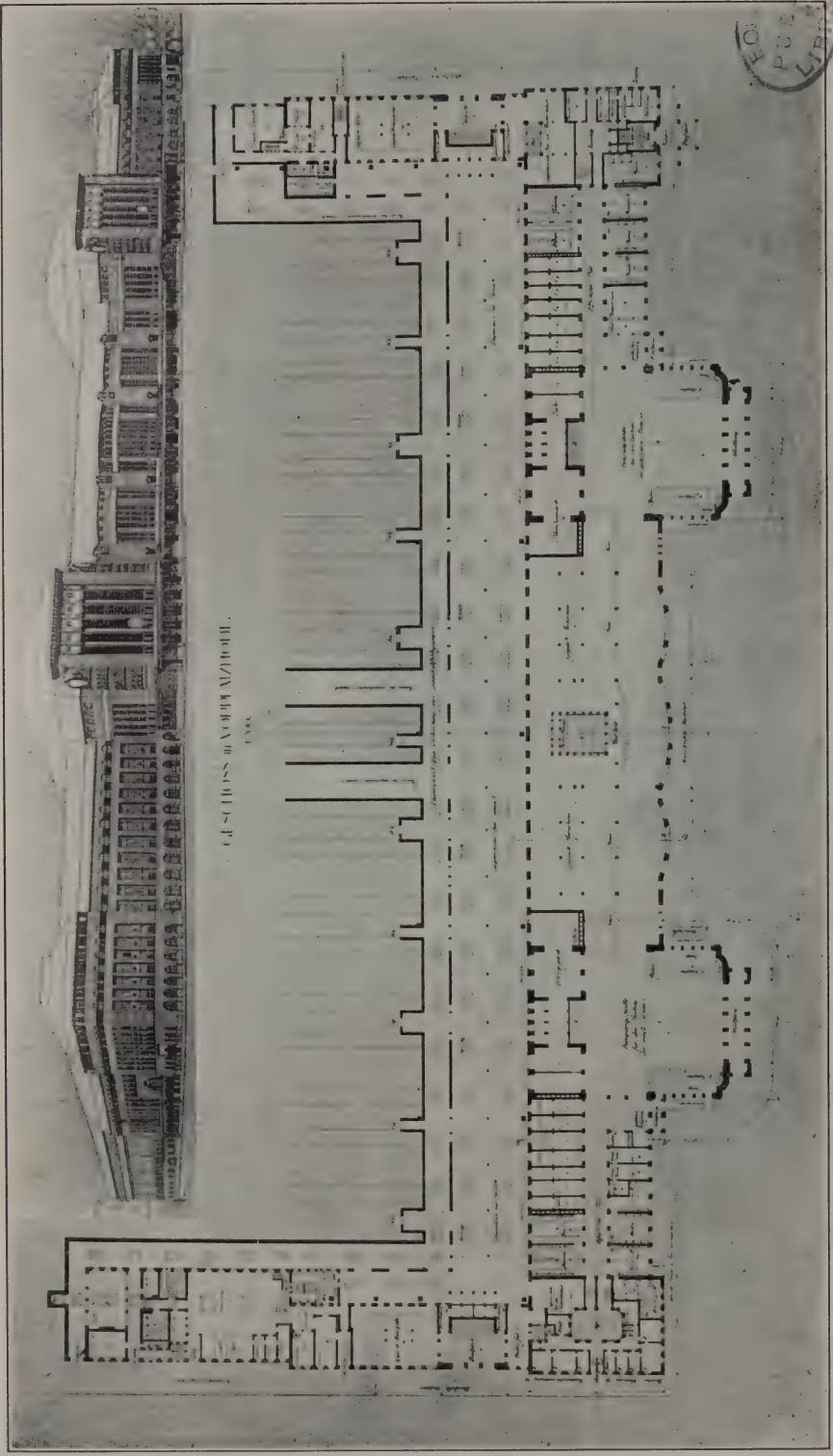
Prof. G. Seidl, Architect.



DEUTSCHES MUSEUM, MUNICH.—PLAN THROUGH MAIN FLOOR.

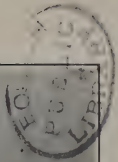
Prof. G. Seidl, Architect.

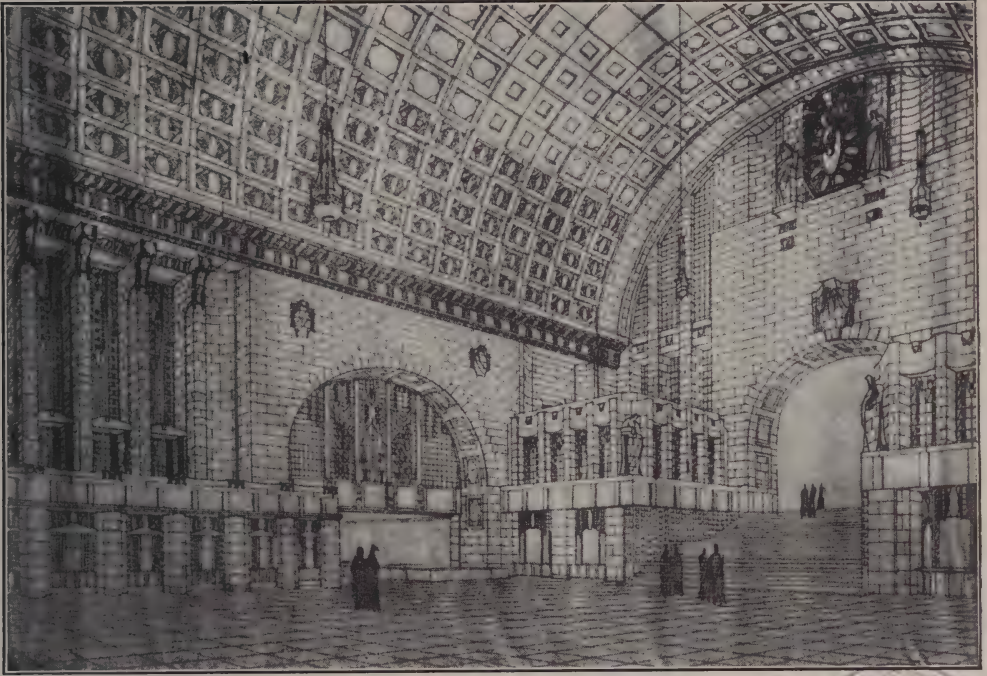




TERMINAL RAILWAY STATION, LEIPZIG.

William Lossow and Max Hans Kühne, Architects.  
The largest railway terminal in the German Empire and one of the largest in the world, now in course of construction. The main  
façade is over 850 feet long.





One of the two great entrance rotundas.



Detail of one of the entrance pavilions.

TERMINAL RAILWAY STATION, LEIPZIG.

William Lossow and Max Hans Kühne, Architects.





TOWN HALL, BREMEN.



LANDSTAENDISCHE BANK, DRESDEN.

William Lossow and Max Hans Kühne, Architects.



BANKING HOUSE FOR LOUIS DREYFUS & CIE.

Paris.

H. P. Nénot, Architect.





OFFICES OF INTERNATIONAL SLEEPING CAR CO.

Paris.

H. P. Nénot, Architect.

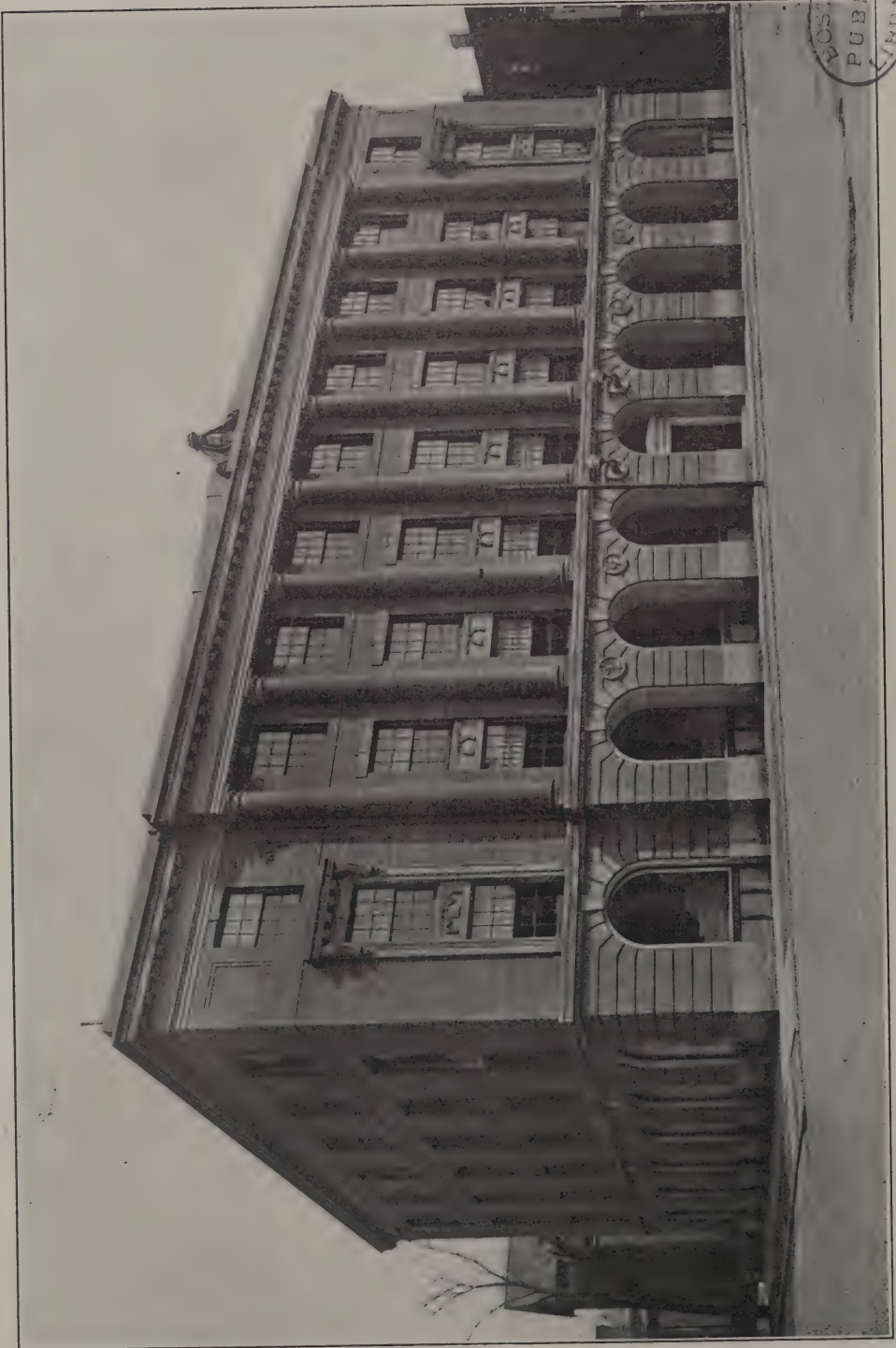
# Utilitarian Architecture at Chicago

## II.

It was said in part first, which appeared in the February issue of the *Architectural Record*, that there are still those who adhere to the "precedents"—that is, precedents in matters of design found in the historical styles—and still have done much useful work in which the old predilection is seen. It was also said that their work in this field is noted for its sobriety and a strict regard for the value of good, but plain, materials and admirable proportions. The generally prevalent severe weather of the past winter has made it impossible to procure photographs for illustrations of this character. I am therefore compelled to illustrate only one of them, and as it answers the purpose, it can be said that it fairly shows the usual character of the design of the architect in question. Howard Van Doren Shaw is well known as having been from the commencement of his practice one of the most independent designers in this country. I know of no other building that he has designed which is not characterized by original thought and freedom from the conventional architectural precedents. However, the building of Ginn & Company at Chicago, which is the subject of the first illustration, is his own exceptional design. Why he has departed from his common practice in this instance need not trouble either the writer or the reader of these lines to know, and it is enough to realize that the building is a fact. This building is the western depository and warehouse of a large eastern publishing house, whose specialty is educational books. It is located on a secondary business street in an old residence district about two miles from the business center of Chicago. The material for the exterior, generally used on all four sides, is Purington paving brick, and all the remaining material seen in the illustration is Bedford (Indiana) limestone. No fictitious material representing stone is

used, hence it is an example of honest building throughout. It stands on a high base of stone. The first story is an arcade, both of windows and doors, and no other arches are used in the walls. The rustication is effected by introducing two courses of beveled bricks for each dark line, and the key stones do the real work for which they are intended. The only decoration is in four inserted carved stone medallions, two of which are used to carry lighting brackets for indicating the main entrance, and four others have devices emblematic of education and knowledge. A very plain cornice, without mouldings, surrounds the building at the second story floor line, above which are three stories of square headed windows. Above these is the main entablature of cut stone, consisting of architrave, frieze, cornice and blocking course. Under the cornice are brackets of very simple outline and the mouldings are entirely unconventional, merely suggesting classical sections. The cornice is of small projection, and the height of the whole entablature is regulated by the necessary quantity to carry it from the top of the fourth story windows above the roof. Emphasis is given to the principal front by advancing the center or, in reality, causing the two end bays to recede from the street line. This is for purely decorative purposes and makes possible the introduction of a colonnade, which is executed in brick, with stone capitals and bases, suggested—merely suggested—by the Roman Doric order. This and the introduction of modillions and cornices for the clubbed windows of the second and third stories of the two end bays, is the tribute paid by the designer to classical architecture. But observe how consistently he has done it. There are no projecting window caps for the three stories of windows included within the colonnade because the main entablature is over them. The cornices over the





H. V. D. Shaw, Architect.

FIG. 1. GINN & COMPANY'S BUILDING.

Cottage Grove Avenue, Chicago.

clubbed windows are in those bays where the main entablature does not project from the wall, and it was not necessary to carry the cornices up to the fourth story because the windows there are so near to the main cornice. Hence the corning of the clubbed win-

am not defending his choice of that formula, but the rational way in which he has used it. He has not attempted to follow the accepted proportions of the Roman Doric order, because he was first bound by the necessity for certain dispositions of windows for lighting pur-



FIG. 2. THE LAKESIDE PRESS.

Dearborn and Polk Sts., Chicago.

H. V. D. Shaw, Architect.

dows in combination with the colonnade and projecting entablature constitute a correct architectural combination. And there was a *reason* for what the architect has done consistent with his desire to use a classical formula in the general treatment of the front. Understand, I

poses in a utilitarian building. But once having adopted this order as the basis of his design he has been consistent in following the accepted requirements of that order in general, and adopting a new system of proportions which are still satisfying to the eye, because they



do not militate against the purposes of the building. I have dwelt on this feature of the design because it shows that one whose practice is independent of

The brick laying of the colonnade is the most perfect I have ever seen. Of course a certain number of sizes of bricks had to be specially made. But



FIG. 3. THE PRINTERS BUILDING.

Chicago.

H. B. Wheelock, Architect.

classical formulae is as well fitted, if not better than others, to grapple with the problem of adopting a classical design to a utilitarian building, and carrying it out in an entirely independent manner.

with these the entasis, which is slight, was skillfully carried out, without requiring the relaying of any part. The columns are proportionately too long for the "order," but that is explained above.

Of a very different design is the "Lakeside Press," which is the subject of Fig. 2. This is the printing and binding establishment of R. R. Donnelly & Sons Company, located on next to the last lot at the south end of Dearborn street, opposite the Dearborn station of

the second story, though a small old building occupies the corner. The three fronts are identical except that the main entrance is on Dearborn street. The materials are also Purington paving brick, with Bedford (Indiana) limestone where stone was required. The bricks, as in



FIG. 4. THE PRINTERS' BUILDING—MAIN ENTRANCE.

the Chicago & Western Indiana R. R. Company. It is also the work of Mr. Shaw and was built in two sections. In the first section Mr. Shaw was associated with S. A. Treat, but the exterior of the whole is Mr. Shaw's design. It fronts on two streets and the south end is finished in the same manner above

the Ginn building are laid with a half half inch hollow black joint. This building, as also the Ginn building, is of modern fireproof construction throughout, being constructed with steel frame and semi-porous hollow clay tiles. The Ginn building, however, being only four stories high, has solid brick exterior





FIG. 5. AMERICAN SNUFF CO.'S BUILDING.

Chicago.

Schmidt, Garden & Martin, Architects.

walls. The Lakeside Press required different window treatment on different stories and this is well expressed on the exterior. On four stories the windows on the two street fronts occupy the entire space between the brick piers. Observe also how the double pitch of the comparatively flat roof is expressed on the south front.

A very recently constructed building of great size is shown in Figs. 3 and 4. This also was built for a printers' building and is so named, but it was erected as an investment, to be rented out, with power, to printers only. The Architect is Harry B. Wheelock. The material

of the first story is stone. Above it is of red pressed brick, and buff enameled terra cotta. The relative values of these materials in a color composition are best seen in Fig. 4, which is the main entrance. It has been impossible to obtain a representative photograph of the entire building, because the relation of the color of the brick to the enameled terra cotta is so much changed, the brick coming out too dark and the terra cotta too light in the print. This extreme contrast is also exaggerated by the use of a larger proportion of brick in facing the four angles of the building. There is absolutely no decoration



FIG. 6. THE AMERICAN SNUFF CO.'S BUILDING.

Entrance front on private street in the company's property.

Schmidt, Garden & Martin, Architects.

on the exterior and straight lines have been used everywhere. The location is on Fifth avenue and Polk street, just outside of what was until now the limit of the wholesale district and near two large railway stations. It is of heavy mill construction interiorly and built to the limit of height allowed by the ordinances for a building of that character.

In the first part was shown the Montgomery Ward mail order building, lo-

ping platform for car lots. The roof over this platform is a slab of reinforced concrete suspended from the under side of girders which support the second floor. The opposite side of the building, which is the entrance front—though all sides are practically fronts—is shown in Fig. 6. Here is not only the entrance to the offices, but the shipping platform for teams and the employees' entrance. These are shown in detail in Figs. 7 and



FIG. 7. THE AMERICAN SNUFF CO.'S BUILDING.  
Shipping platform for city trade.

cated on the north branch of the Chicago River, by Richard E. Schmidt, Garden and Martin. Here is seen a strictly manufacturing building (Fig. 5) by the same architects. It is also located on the outskirts of the city. This shows the working side of the American Snuff Company's building, which is traversed by a switch track. The greater part of the length of this, the north side, is occupied in the first story by the ship-

8. Nothing could be more severe than this design for a building faced exteriorly with one kind of paving brick and the least possible amount of stone trimmings as well as concrete, used where most practicable. The position of all the windows has been carefully studied and they are spaced according to the use which they are to serve. The floor supporting piers are all indicated by pilaster buttresses on the exterior



wall up to the fourth floor, where their load carrying function ends. The relation of the office entrance to the shipping platform for teams, the employees' entrance, the stairtower for the latter and the elevator tower, is well expressed on the exterior. The stairway and the elevator are kept outside of the wall of the

formed in position. The water table—which in the illustration is covered with snow—the window sills throughout and the sill course of the first story windows are of stone, buff Bedford, Indiana limestone; but all the sill courses of the second and third stories are formed with projecting brick headers. The sill course



FIG. 8. THE AMERICAN SNUFF CO.'S BUILDING.  
Office entrance next to shipping platform.

building, the platform is reached by a side door from the office part, and the office entrance is emphasized only sufficiently for its purpose. The door trimming is of stone, because concrete could not be used for the rapid construction required for the walls. But the steps, platform and hitching posts for the entrance are all made of concrete

of the fourth story is of stone, and forms projecting caps for the buttresses. The coping of all the walls is of concrete made in position with a projection of one foot. Projecting courses of brick headers follow the lines of the iron lintels over all the windows, and a similar projection is given to the brick on the sides of all the windows. These are bonded

in the window jambs, which are three courses deep. Attention is called to the construction of the hood over the shipping platform. This is a slab of reinforced concrete of considerable projection, and it is supported by two heavy I-beams, covered with concrete. Fig. 8 shows how carefully the paving bricks are laid to produce an effect. They are slightly beveled at the horizontal joints, but square edged at the butt joints. The horizontal joints are scraped out, thus being in shadow and giving strong horizontal lines when the sun is high. But the vertical joints are struck smooth. Only the ordinary brick mortar was used and no attempt was made to color it. The interior construction throughout is of reinforced concrete, the girders run in both directions, and the squares are filled with slabs supported on all four sides.

It would be difficult to find a utilitarian building that shows better than this what it is made of and which so clearly expresses its functions and purposes. It is the result of careful and conscientious study, to produce the best results with the most servicable and economical materials. It illustrates perhaps better than any of the other examples cited the principle embodied in the recent movement by the best informed architects of

Chicago, for a rational and constructive architecture in a class of buildings in which elaboration for the sake of ornament would be entirely out of place.

In part one allusion was made to the "Central Manufacturing District," in the southwestern part of the City of Chicago, a property half a mile square, which is being built up rapidly from designs by Alfred S. Alschuler. The largest building yet erected on it is that of the Pfannmueller Engineering Company, shown in Fig. 9. It is a machinery exhibition warehouse and is built with reinforced concrete floors and roof. The exterior walls are of paving brick trimmed with limestone. The roof over the central portion is covered with cement tiles. The building covers 100 by 400 feet of ground. The central section is 50 ft. wide with a 30-ton traveling electric crane running the entire length, except where the offices occupy the front part. There is a gallery at the second floor on each side of the central hall which is cantilevered beyond the supporting columns over into the central area, in order that the traveling crane may handle materials directly from the gallery. The offices occupy the second and third floors next to the front wall.

*Peter B. Wight.*

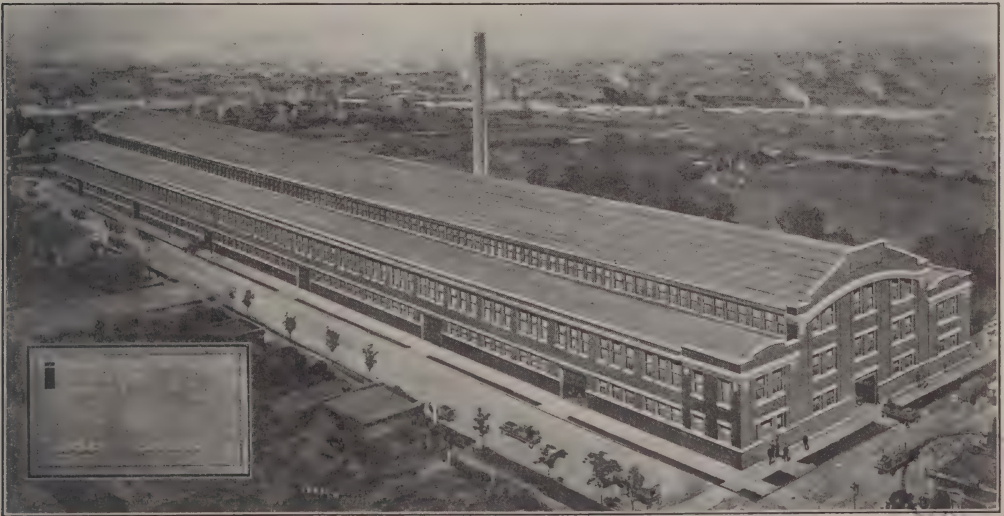


FIG. 9. PFANMUELLER ENGINEERING CO.'S BUILDING.

Central Manufacturing District, Chicago.

Alfred S. Alschuler, Architect.



# The Evolution of Architectural Ornament

## I.

### INTRODUCTION

All architects who are accustomed to use ornamental detail for the enrichment of their buildings must have been struck with the wonderful persistence of certain types, and must have become interested in considering their origin and the gradual changes which they have undergone from time to time. In fact, without this interest being aroused it is almost impossible for them to design their own ornament in accordance with the general character of their buildings, or with any sense of development. They are likely to become mere copyists, or else blunderers in the general scheme of evolution which is still persisting as it has done from the earliest times. This interest in ornament is, too, not merely confined to architects, but involves all who enter the field of decorative design, whether their work lies in connection with buildings or with jewelry, with dress or even with china and glass.

There are several methods of dealing with the subject which might be adopted. It would be possible to treat it historically, period by period or country by country, considering one architectural phase or style at a time, and treating simultaneously with all the various types of ornament employed during the same architectural epoch. If the inten-

tion were to produce mere stylists or to encourage the designers of the present day to work as archæological copyists, at one time as classicists and another time as Goths, this would be the right system to adopt. The present tendency in ornament is, however, not to conform so rigidly as this to the precepts laid down by our remote forefathers, but to develop and if possible to originate. If we are to do this successfully, we must bear in mind how development has proceeded in the past, and it is consequently thought better, under the present circumstances, to adopt a classification by means of which it may be attempted to trace each of the principal types of ornament in sequence. It is intended therefore to commence with ornament which has a foliage basis, dealing in turn with the anthemion, the acanthus, and the miscellaneous ornaments of foliage derivation of the Classic and Gothic schools, including all which were originally derived from foliage even though they have no apparent connection with it now. Subsequently, ornament with a linear basis and also that with an animal basis shall come in for similar treatment, combinations of types being left for consideration at the conclusion of the series of articles of which this is to be the first.

### Ornament With a Foliage Basis—The Anthemion

No architectural ornament has held its own more consistently than the anthemion. We can trace its origin back almost to the beginning of architecture; we can also trace its use through almost all successive periods up to the present day in one form or another, varying from time to time, changing as architectural styles have changed, but always with essentially the same underlying motive—a

flower of several branches, sometimes dissociated and sometimes connected with similar flowers or slight variants of the same. Many people hold that its origin is to be found in the lotus flower of the Egyptians. The only difficulty in accepting this lies in the fact that the early Egyptian representations are not carved architectural ornaments but mere painted enrichments whose date it is al-

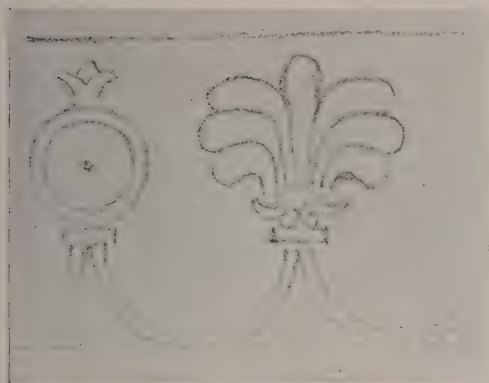


Fig. 1. Incised Anthemion on ivory from Nimrod C. 850-700 B. C.

most impossible to determine with certainty. In many cases painted decoration has been applied to earlier buildings, and the date is consequently a matter of doubt. The lotus certainly does occur in Egyptian ornament, or in that which is based upon the Egyptian, very much in the anthemion form. It is not, however, the only possible derivation for there is a good deal to be said for the theory\* that all the Grecian carved enrichments have an eastern rather than a southern origin—that they came originally from Asia Minor rather than from Africa. On the other hand, there is a possibility that the dwellers in Phoenicia and Assyria in turn derived their ornaments from Egyptian sources. There is a case of small ivory carvings in the Assyrian gallery of the British Museum which are labelled as being Phoenician, but of Egyptian design, their date being given at anything between 900 and 750 B. C. These small ivories are of high

archæological value, for they contain the earliest representations in actual carving which we possess of several forms of ornament. The anthemion occurs again and again, a somewhat common form being that shown in Fig. 1, which is a considerably enlarged representation of the original. Here the anthemion is shown as a seven branched flower rising from a curiously shaped bud and connected by a semicircular stem with an



Fig. 3. Range of trees, from a representation of the building of Sennacherib's Palace at Kouyunjik in the British Museum.

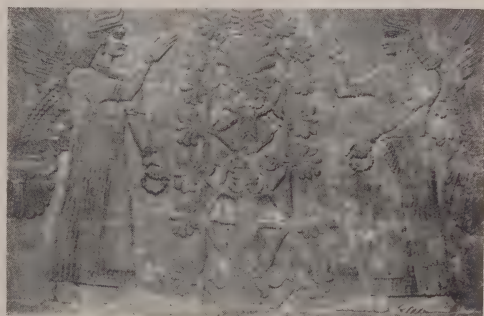


Fig. 4. Assyrian Wall Slab.  
(British Museum.)

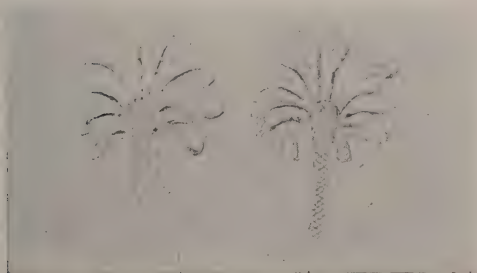


Fig. 2. Palm trees on wall slab from Sennacherib's Palace, Kouyunjik.  
(British Museum.)

alternating ornament which consists of a circle crowned by a trefoiled leaf. In this particular case the Anthemion does not suggest the Lotus, but is much more indicative of the palm tree, particularly to those who carefully observe the many wall slabs in alabaster which line the Assyrian galleries of the museum, as at one time they lined the rooms of the great palaces at Korsabad, Kouyunjik and Nineveh. Of these, the British



Museum possesses a most remarkable series, such as cannot be found elsewhere, all being originals. Unfortunately there seems to be no means of determining their sequence in point of date, but it is noticeable that the palm and the fir tree occur constantly, in some cases irregularly, but often arranged to represent rows along the sides of country roads or river banks, and so having

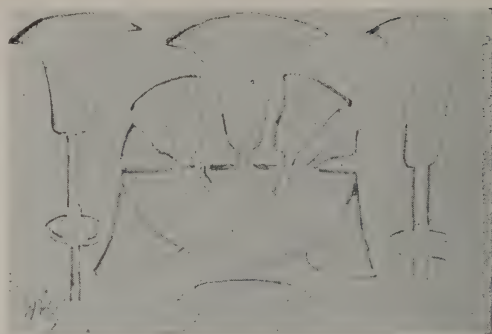


Fig. 7. Lotus Carving, bas relief from the tomb of Mes, a Ka priest, Egyptian XIXth Dynasty. From Memphis. (British Museum.)



Fig. 5. Fragment of Assyrian Sacred Tree, about 830 B. C. (British Museum.)

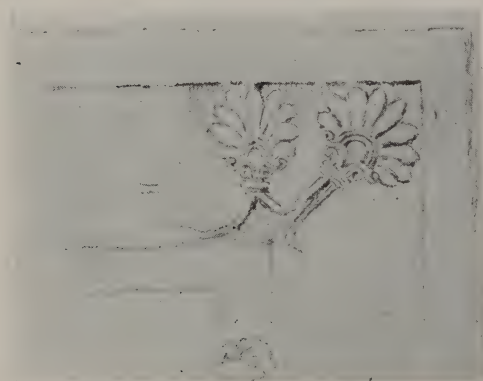


Fig. 6. Assyrian Terra Cotta floor in stamped relief (low).

a purely decorative appearance, as for instance, in the range of palm trees of which two are illustrated in Fig. 2. It is impossible to turn one's eye from these wall slabs to the ivory ornaments in the neighboring case (depicted in Fig. 1) without seeing that the anthemion may very possibly have been derived from the palm, at any rate so far as one of its common forms, that known as the

"palmette," is concerned, whose leaves branch outwardly. Had this ornament originated certainly with the lotus, as many writers have thought, the leaves would have been less curved and more sharply pointed, for the lotus flower is always represented with a sharp point and not with a rounded end.

The other principal variation of the anthemion known as the "honeysuckle," whose leaves, or if we prefer to call them so, whose petals curve inwards instead of outwards, has been said to be derived from the lotus bud not yet quite open, just as the palmette has been traced to the open lotus flower. Again this is a plausible explanation of its origin—probably in neither case will it ever be proved whether it is the true one—but again turning to the Assyrian

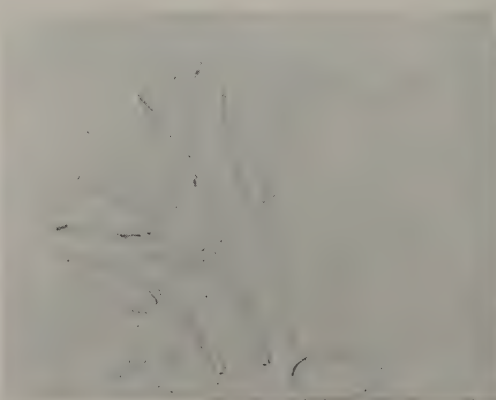


Fig. 8. Crude representation of Lotus bud and flower on incised slab of the Egyptian Ptolemaic period. (British Museum.)

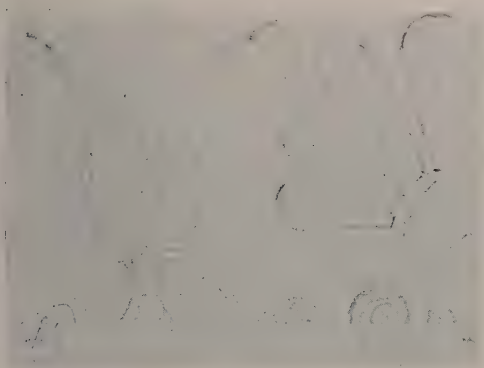


Fig. 9. Gilded Enrichment of pediment cymatium, Temple at Aegina. From cast in British Museum.

sculptured wall slabs in the British Museum ranges of trees are found from which the so-called honeysuckle ornament might very well have been derived. In this case they are fir trees, a most striking example being illustrated in Fig. 3, with trees of large and small size alternating. This particular type of the anthemion is, however, much more difficult to trace, as fewer examples exist of it in its perfected ornamental form



Fig. 10. Antefixial Ornament, Parthenon. (British Museum.)

previous to the Grecian epoch. It does not occur either upon the ivories already mentioned or elsewhere in Phoenician or Assyrian carvings otherwise than as a range of somewhat conventionalized trees. The appearance of a distinctly decorative anthemion is perhaps first indicated in the Assyrian "sacred tree," as shown in the photograph, Fig. 4, of which there are several examples in the Museum. Though their date is indeterminate within some centuries between 900 and 600 B. C., they have all the appearance, so far as one can judge from the character of the carvings, of being early rather than late. The anthemion occurs here as a flower at the terminals of a stem, which twist and turn in a decorative manner almost as if they were plaited, having, in fact, some resemblance to the guilloche plait to which reference will have to be made subsequently. The flowers are all of them seven-leaved and are more analogous to the palm tree in the manner in which they spread than to the incised ivory carvings shown in Fig. 1. An enlarged detail of a portion of Fig. 4 is shown in Fig. 5, it being exceedingly difficult to represent clearly by means of photography an ornament in such extremely low relief as this is. Whatever we trace it back to, however, there is no question at all about the occurrence of the anthemion here in a decorative sense.

This is even more apparent in certain floor slabs of terra-cotta, of which the British Museum possesses several fragments. In all cases these appear to represent carpets, for their borders have fringes. These fringes, it may be noted, consist of alternate lotus flowers and buds, and give no sign in themselves of originating the anthemion, which occurs on several examples as one of the patterns upon the floor itself, as a continuous unvaried repeat merely adapted to the angle where an angle occurs. This particular ornament is shown in Fig. 6, but instead of containing seven leaves, each anthemion now contains nine, showing that even during the Assyrian period there was no absolute rule as to the number of petals. The whole character of the ornament is otherwise precisely





Fig. 11. An akroterion, possibly from Eleusis, now in the British Museum.

that of the anthemion upon the sacred tree, while the multiplication of leaves suggests the palm which, as already illustrated in Fig. 2, varied in different examples. If the necessary trouble be taken to count the leaves in Fig. 2, it will be found that one tree carries ten, while the other bears eleven. In the ornament shown in Fig. 5 there is a calix which seems to be developed from the elementary calix in Fig. 1, from which the leaves spring, while the single horizontal band or tie round the stem beneath the calix on the ivory has developed into a triple band.

Returning to the possibility of the anthemion having been derived from the lotus one finds this to a certain extent borne out by crudely incised ornamentations such as that shown in Fig. 7,

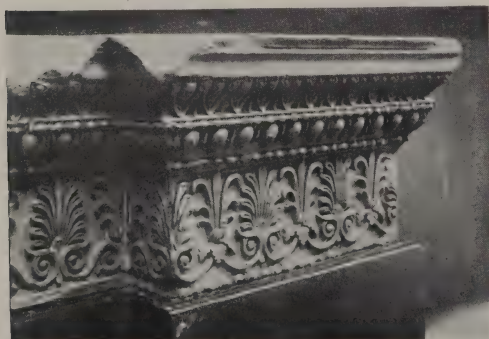


Fig. 13. Cella Frieze of the Erechtheion, Athens.  
(British Museum.)

which belongs to the period of the Egyptian nineteenth dynasty, probably about 1300 B. C. It is thus greatly anterior to any of the Assyrian or Phœnician carvings to which reference has already been made. It shows the lotus

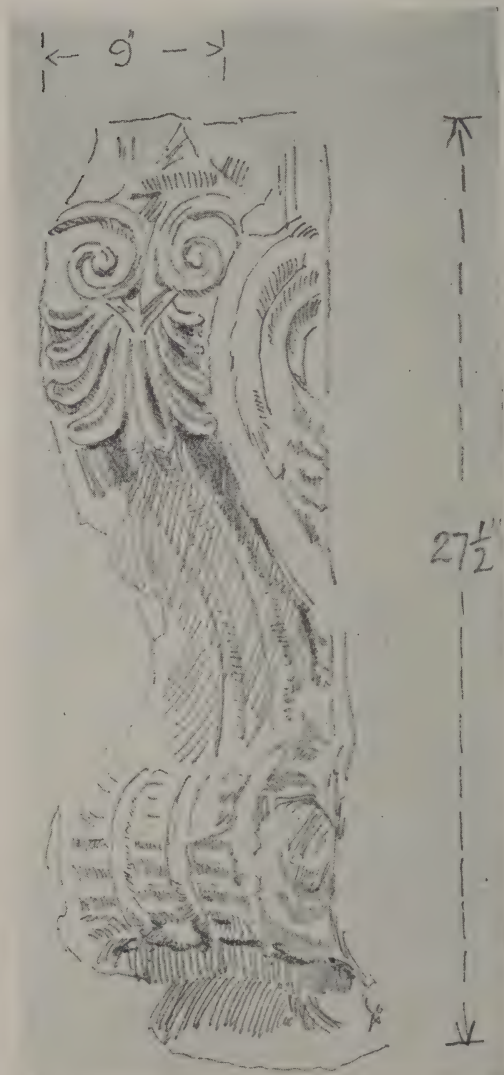


Fig. 12. Console, North Portico of the Erechtheion, Athens.  
(From a cast in the British Museum.)

flower both singly and in groups, at least suggesting the radial anthemion arrangement and opening up considerable possibilities of conventional design. Something much more like the honeysuckle

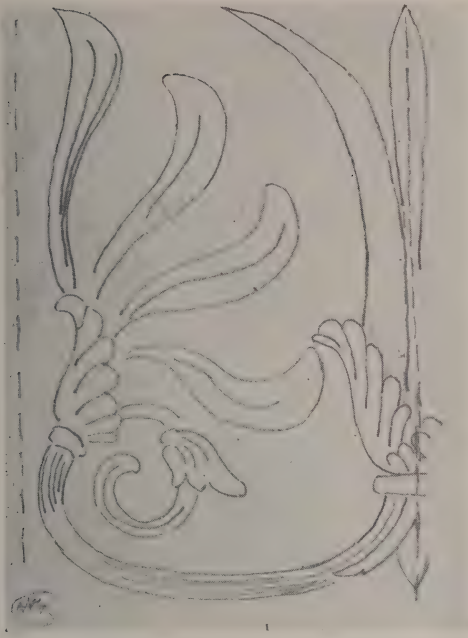


Fig. 14. Enrichment of Cymatium (cyma recta)  
Mausoleum, Halicarnassos.  
(British Museum.)

variation of the anthemion is shown in Fig. 8, which is also a drawing of an exceedingly crudely incised ornamentation, Egyptian, but belonging to the



Fig. 15. Cymatium Enrichment, Temple of  
Minerva Polias, Priene.  
(British Museum.)

Ptolemaic period, and probably executed no further back than 250 B. C., if so far. Its date is consequently subsequent to the whole of the great Grecian period, but it is obviously a copy, as much of the work of that date was, of previous Egyptian ornament of a thousand years earlier, and so far may reasonably be considered as a prototype and not a sequence of the anthemion.

The next definite step forward seems to be the appearance of alternating honeysuckle and palmette anthemion connected by scrolls in painted or gilded enrichments, such as that illustrated in Fig. 9, from the British Museum cast of the pediment cymatium of the Temple at Aljira. The honeysuckle form seems to indicate a lotus bud origin, and consists of five petals only, while the palmette consists of seven petals and very closely indeed follows the suggestion of the anthemion on the Assyrian sacred tree and seems almost unquestionably to have a palmette origin.

Be this as it may—for all of these questions of origin are of little practical moment to the modern designer, so long as he recognizes a type and understands how that type has developed—the various phases of this ornament already illustrated are sufficiently numerous to give plenty of suggestion to subsequent workers. Clearly the Greeks did not originate the Order, but with their extraordinary skill and sense of refined outline they developed it and produced a considerable number of variants of it, the majority of which are of extreme beauty in themselves, while they are invariably well suited to the positions which they occupy. This may in particular be said of the antefixial ornaments which were used along the eaves of buildings of the Doric Order to act as stops to the tiles. The best known example is that illustrated in Fig. 10, being that from the Parthenon at Athens. These antefixi, being independent ornaments, were naturally unconnected, and much skill is shown in the treatment of the scroll to make it a natural termination and support to the branching foliage which, it may be noted, now consists of no less than thirteen petals of the pal-





Fig. 16. Square capital from Temple of Minerva Polias at Priene.  
(British Museum.)

mette type. The date of this is probably about 432 B. C., by which time Greek ornamental forms had become thoroughly established. Carved in marble, perhaps the most perfect of all material, and not incised in lime-stone or granite as was Egyptian work, or modelled in extremely low relief in alabaster of large crystals like the Assyrian, it is no surprise to find that the workmanship was of the highest possible quality and the modelling unexcelled in its combination of simplicity with sharpness, yet without extravagance of emphasis, and with perfect adaptation of any surface curves to the position which the work should occupy in relation to the eye.

Fig. 11 perhaps illustrates better the perfection of this work. It shows a further development of the anthemion ornament upon an unusually large scale. At one time the original of this was labelled in the British Museum, where it occupied a place among the Elgin

marbles, as an antefixial ornament from Eleusis, but its great size suggests that it was more probably an akroterion or pediment terminal, though, in fact, little is known about it. Many similar ornaments are to be found as the terminals of Steles or sepulchral monuments, which invariably, as in this case, show the introduction of the acanthus leaf either in substitution for the scrolls or at their junction with the petals. It may be noted that when the anthemion is used as an isolated ornament, as in this



Fig. 17. Anthemion band on late Roman column, in the Victoria and Albert Museum.

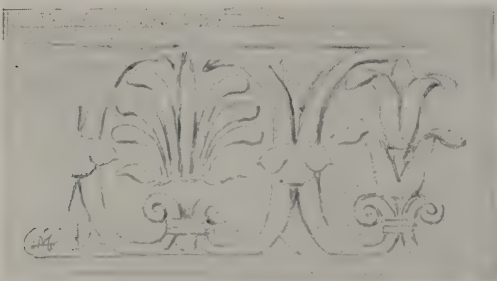


Fig. 18. A Roman variant of the Anthemion from the base of a Candelabrum in the British Museum.

case, it almost invariably takes the palmette form, at any rate in Grecian work, except when it is introduced to hide the junction between the circular band of egg and tongue enrichment and the volutes of an Ionic capital.

Another example of its use in isolated palmette form occurs in the exceptional console—which flanked the door of the north portico of the Erechtheion, illustrated in Fig. 12. Possibly the most perfect examples of the anthemion enrichment anywhere in existence are

those which occur in the frieze on the cella wall of the Erechtheion (Fig. 13), a considerable fragment of which is in the British Museum. The palmettes consist of eleven petals each, and the honeysuckles of five true anthemion petals in addition to two lower similarly curving leaves from the acanthus. The scrolls are differently connected along the main face and across the face of the anta, where the enrichments are comparatively crowded in order to properly fill the space they have to occupy. The subtle nature of the surface curvature will be recognized in the photograph, together with the extreme precision of



Fig. 19. Fragment of Enrichment from Base of a Roman Candelabrum. (Louvre, Paris.)

the carving and generally marvelous workmanship. The work was probably executed within a very short period of that upon the Parthenon, though the exact date is not known. It is clear, however, that by this time the motive had become thoroughly well recognized, and that any further changes partake only of the character of variants and gradual development according to the style and country where it is produced. There are many such variations, but attention need now be only called to some of the more prominent forms, as indicating possibilities for the future. The enrichments of the cymatium which



Fig. 20. Capital on West front, Notre Dame, Poitiers.

crowned the Mausoleum at Halicarnassos, for instance, built about 350 B. C., shows alternately three petalled honeysuckles and eight-petalled palmettes, these being split into two halves of four petals each, as shown in Fig. 14, and, of course, without a central petal. Each of these forms was to have considerable influence upon the future changes which were to take place in the ornament. The reduction of the petals to three in the one case suggests the fleur-de-lis of a much later time, while the halving of the



Fig. 21. Fragment of Capital in the Chapel of the Pyx, Westminster Abbey. (C. 1065 A. D.)





Fig. 22. Arch, Malmesbury Church, Wiltshire.

palmette was a device frequently used in many subsequent periods, and even also by the Greeks, as is indicated in Fig. 15, which shows a small portion of the cymatium enrichment of the Temple of Minerva Polias at Priene, which was one of the later Grecian temples. An example of the anthemion, used both as a whole and as a half, occurs upon the rare square capital from the same temple, shown in Fig. 16. This is carved in a softer stone than marble, and is, consequently, coarse in execution, while the whole character of the work is indicative of Assyrian influence, which seems to have dominated the ornamenta-

tion of the buildings of the Greek Ionic Order to so very large an extent. An example of the anthemion, purely Greek in character, has been found as far south and east as at Allahabad, in India, local archæologists dating its execution to 254 B. C.

The Romans adopted the anthemion and all other forms of enrichments common to the Greeks, introducing into it their own characteristics, and adding numerous variants. Possibly the most common of these is that shown in Fig. 17, in which each alternate anthemion

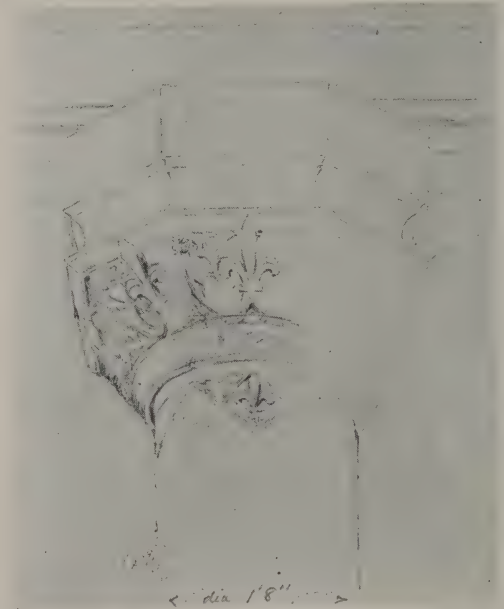


Fig. 23. Capital, Street Colonnade, Maison Historique, Beauvais.  
(A. D. 1314.)

in the bond band round a column is reversed, the first ornament being upright and the next pointing downwards. It is not a particularly elegant form of ornaments, for the connecting scroll is exceedingly difficult to design gracefully under these circumstances. The form shown in Fig. 18 is more pleasing, though less true to the original idea. The palmette in this is not greatly different from the Greek form, but the honeysuckle is something fresh, like one flower rising out of another, with the leaves curled over at the tip. Between each

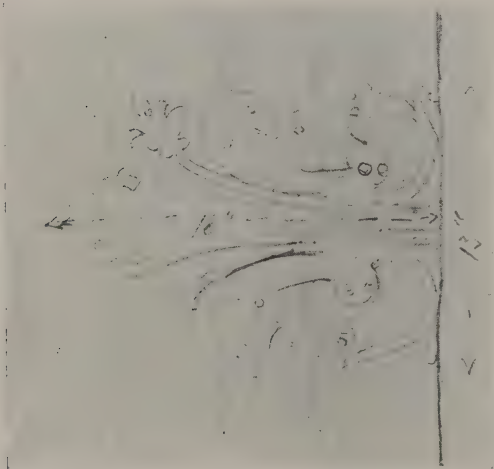


Fig. 24. Wrought Iron Hinge, West door, Antwerp Cathedral.

palmette and honeysuckle there is another arrangement of three leaves, obviously derived from the same source. The workmanship is by no means so perfect as in the best Greek period, and the leaves partake of a curious surface crinkle or wave, the effect of which is to destroy the purity of outline, without adding anything commensurate in the way of surface texture. This tendency to elaboration of detail is shown to a still greater extent in Fig. 19, in which the leaves of the anthemion are serrated, besides being given surface wave. The origin has evidently been forgotten altogether, the designer's sole object being to increase the amount of enrichment which he could crowd into a given space and on to a given ornament. The acanthus leaf is introduced freely into the scroll, and so are natural flowers and buds.

It is strange that, although the Byzantine style was derived partially from Greek and partially from Roman sources, the anthemion ornament seems rarely to have been used where it flourished. Possibly this is to be accounted for by the fact that the enrichments, in such places as those in which the anthemion would have been employed in true classic work, were now almost invariably of mosaic or color. On the other hand, its presence is found in the Byzantine derived work forming the Romanesque, both of southern France and of the Rhine, though it occurs in crude form crudely carved, not as in the earlier work appearing to stand out from a level background, but generally with a background of varying depth sunk below the level of the face, as is commonly the case with all ornament of the period. The examples, too, are scattered and apparently accidental, and they occur in positions where they are unexpected, as, for example, on the cyma recta moulding of the abacus of a capital (as shown in Fig. 20) from the front of one of the most richly carved churches of mid-France. Each anthemion is, in this case, enclosed as in a frame by continuing the connecting scroll upwards and inserting leaves between the scrolls. Even such examples as this are rare, and the



Fig. 25. Font in Ufford Church, Suffolk.

date, as a rule, uncertain; but we do know the date of the very curious form which occurs as a band on one of the capitals in the Chapel of the Pyx, at Westminster Abbey, recently exposed to public view, and illustrated in Fig. 21. This must have been carved just previously to the Conquest of England by Duke William—that is, about the year 1065. Each anthemion springs from a cable necking, the only connection between them being made by means of dropping leaf buds. The ornaments, as it appears here, seems to have been only faintly suggested by the true originals;



Fig. 26. Burgundian Woodwork now in Patton Church, Surrey.



a mere tradition of a branching leaf enrichment having apparently traveled across from the Continent to England at this time. A good deal of nonsense seems to have been talked about the early Norman enrichments having been

where any attempt at detail has been made. A much more nearly correct representation of the original anthemion appears on an arch in Malmesbury Church, illustrated in Fig. 22, the form being that in which it occurred long be-



FIG. 27. CHIMNEYS, CHÂTEAU DE BLOIS.

invariably carved with rough tools, such as the axe, yet it is impossible to look at this example without coming to the conclusion that something in the nature of a chisel must have been employed; and it is the same with a great deal more of the characteristic work of the period

fore on the mausoleum at Halicarnassos. The date of this is probably about 1130 A. D.

With the death of the Romanesque styles, the anthemion proper disappeared, but it was replaced in Gothic times by a three-leaved flower known

as the fleur-de-lis, which had an armorial significance. It, consequently appears, as a rule, in isolation, as on the face of the column in front of the Maison Historique, at Beauvais (Fig. 23); but the capital of this same column also shows a series of connected fleur-de-lis very closely resembling the true anthemion enrichment, but treated in a Gothic spirit, and with a Gothic surrounding. The capital is quite exceptional, and as beautiful as it is rare. The occurrence of the fleur-de-lis with any suggestion of five leaves is almost unknown, but examples are to be found. There are, for instance, some on the encaustic tiles amongst those which form the pavement of the old undercroft to the monks' dormitory at Westminster, probably belonging to the fourteenth century. Something of the same sort, in fact, as nearly alike as the difference of material would permit, is to be seen on the large wrought-iron hinges of the west door of Antwerp Cathedral, illustrated in Fig. 24, those now existing being replicas of the originals, also probably made about the fourteenth century. It will be noticed that small flowers rise between the central and outer leaves of the fleur-de-lis, giving some idea of a five-leaved anthemion. Whether there was any connection with the classic anthemion is however extremely doubtful; it is more a revival of a type than either a survival or continuation, and that because it is itself a natural type to be evolved. In later Gothic work it appears more frequently, particularly in wood cresting, as upon the cover of the font in Ufford Church, Suffolk, shown in Fig. 25. This, again, is a replica of older work, though both the font and the greater part of the cover belong to the fifteenth century, the cover being far the handsomest and largest in England, extending right up to the church roof. The anthemion cresting here has little resemblance to the fleur-de-lis, and alternates with the well-known straight outlined leaf cresting of its date, the whole being conceived in a purely Gothic spirit.

The fleur-de-lis is also by no means infrequently met with as the central mo-

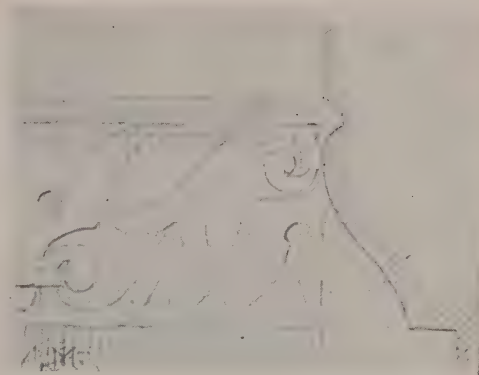


Fig. 28. Pedestal of Lion in front of Strozzi Palace, Florence.

tive of tracery, both in England and in Belgium, during the fourteenth century, and later on in the flamboyant work of France. It is found in large stone windows and also in small wood tracery panels, such as the Burgundian example, of which a photograph is given in Fig. 26.

In France, the fleur-de-lis was retained for a long period as a symbol of royalty, and is frequently found carved upon buildings in the manner shown in Fig. 27, which illustrates some of the chimneys of the Château de Blois,

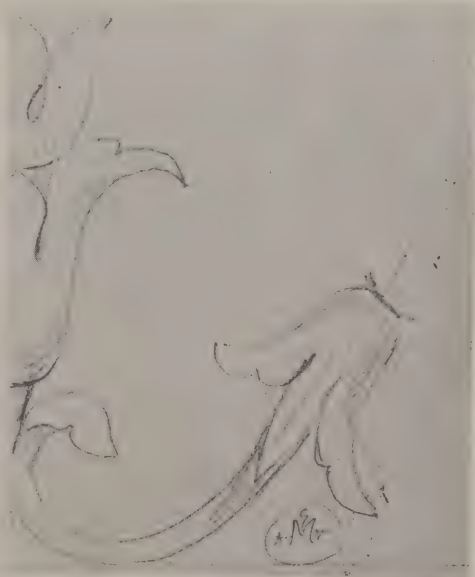


Fig. 29. Low relief on flat, Bologna (Full size.)



there being modern restorations of work done about the year 1525, in the reign of François I. At this time the feeling of the Renaissance was permeating French architecture, and with the Renaissance there had come a revival of the

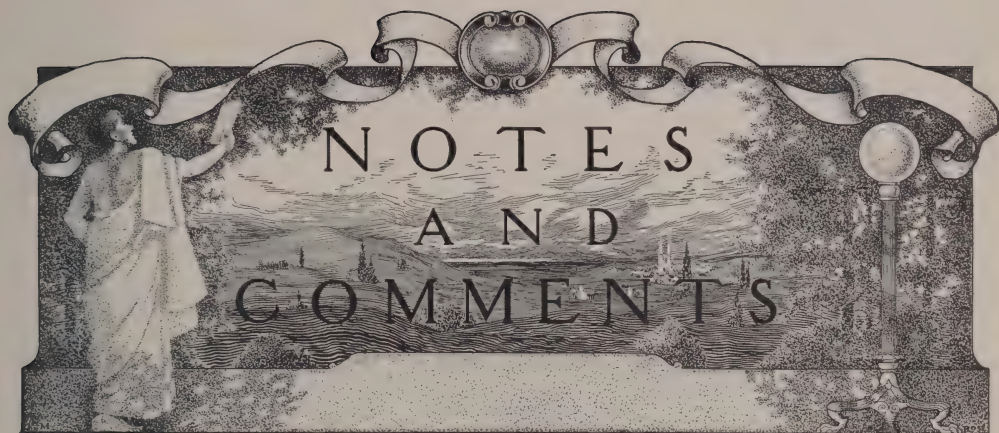


Fig. 30. A Florentine fountain.  
(Victoria and Albert Museum.)

use of all classic ornaments in their original classic manner, so that it is quite natural to find that the fleur-de-lis now partakes more of the true anthemion character than it did during the long Gothic period.

A great deal of the Renaissance work of all countries has been in absolute copyism, particularly in matters of detail, of the work of Greece and Rome, yet fresh variants have been devised from time to time of all the principal ornaments. This was particularly the case in the best period of the Renaissance in Italy. Figs. 28 and 29 show two examples from Florence, differing considerably from one another, yet both founded upon the Roman. Fig. 28 shows the anthemion as a three-leaved flower of the lotus character, but reversed in the common Roman manner, as already indicated in Fig. 17. The outlining, however, is perfectly unserrated, and the surface plain. Fig. 29 shows also an example of reversal, but the anthemion is of a more purely Roman type, with serrated edges, while the scroll consists of foliage, the extreme leaf of which is turned over. There is also surface curvature. These two examples indicate that different hands and minds were at work, not slavishly copying the old, but merely adopting its suggestions in the spirit of the modern times. This, too, is the lesson to be learnt from the Florentine wall fountain illustrated in Fig. 30, much of the carved ornament upon which is of a character with which we shall deal subsequently, although a somewhat large anthemion enrichment occurs near the top, and a smaller one over the child's face, from the mouth of which the water spouts. Both of these indicate that the carving projects from a leveled surface as a background, and is itself of varying depth. The lower anthemion is almost classic in its type, but the upper one is *naturalesque*, instead of representing either the palm, the honeysuckle or the lotus; its central frond or leaf is an ear of barley; the leaves are barley leaves, and two poppies branch out on either side.

G. A. T. Middleton, A. R. I. B. A.  
*Past Vice-President of the Society of  
Architects, England.*



**THE  
ARCHITECT-  
URAL LEAGUE  
EXHIBITION  
IN NEW YORK**

The Architectural League has hardly given an exhibition of larger and more varied interest than that of 1910. The variety is in fact secured by making of it an exhibition of the "allied arts." To promote the alliance between arts among which there has for generations been everywhere, and in this country more than any other, "an harsh divorce," is one of the most honorable of the achievements by which the League has entitled itself to the public gratitude. It is to be noted, of course, that, to be effective, the alliance must be among arts which are properly interdependent, and must observe the Horatian precept of joining only like with like. The present writer recalls how immensely tickled he was, on the occasion of his first visit to Paris, by the ingenuity of the tenant of a small Parisian shop. The entire "Jevanture" cannot have been more than a dozen feet wide. Yet in this narrow space there was a door in the middle and a show window on each side, one exhibiting photographs and the other sheet music, while above was a gorgeous gilt inscription, "Alliance des Arts," which the proud proprietor doubtless viewed with as much complacency as Cesar Birotteau the romantic title of his new cosmetic. The presentment was more ticklesome than edifying, since no man could tell what affinities existed between the particular "allied arts" in question. And not all architecture, sculpture and painting go together. A mediaeval cathedral, indeed, in its structure, its carving and its

stained glass combined all three in the greatest perfection that any one of them had then been enabled to attain. The best and most ornate of modern buildings fall very far short of the closeness of that alliance. A generation ago the sensitive but untraveled American could form no conception of the effect of a public building thoroughly and systematically decorated with the works of the sister arts. The Capitol at Washington was the only attempt in that direction, and Trumbull's portraiture and Brumidi's allegories did not go very far towards realizing the ideal. Even Greenough and Crawford "left to desire." Not until the Chicago Fair was the attempt systematically made to enhance the effect of architectural design by the invocation, exteriorly and interiorly, of sculpture and painting. The various crudities and failures incidental to a first attempt could very readily be forgiven in view of the fact that this was a first attempt, in view also of the great and immediate popular success of the total effect. Then came the Congressional Library, which had the added attraction and promise that it was a permanent and a government work, and not, like the Chicago fair, a sporadic effort on the part of "cultured" citizens. Sculpture and painting were both, on the whole, better done at Washington than they had been at Chicago, the painting better done than the sculpture. But the "object-lesson" was even more impressively inculcated in the permanent government building than in the transient glories of the World's Fair. Every visitor "took it in." The Architectural League has fulfilled a public want in appreciating, and



endeavoring to appease, a public demand with the initiation of which it had, and could have had, nothing to do. Let alone that the Architectural League has made it impossible that any other popular exhibition should be held of architecture, disjoined from sculpture and painting—and this negative service is of high positive value—it has accustomed the New York public to look, in an elaborate architectural work, for a project of which the inherent and necessary architectural effects of what Fergusson calls the "technic art" of architecture are expounded and enhanced by those of what the same authority calls the "phonetic arts" of

place, but that the "spirit" of the allied artist must be loyalty

To that it works in, like the dyer's subdued hand. For a sculptor or a painter to have always with him the notion that his work must not only be associated with but must "fit" a work of architecture is a most wholesome discipline. He must become "decorative" even in despite of himself, though, of course, his work is the most agreeable when he does not have to do himself any violence. The elicitation of such a beautiful decorative talent as that of Mr. Blashfield, to take one example, or of Mr. Maynard, to take a very



CITY HALL.

Portland, Maine.

Carrère & Hastings, }  
Calvin & Stevens, } Architects.

painting and sculpture. In how many ways is this "object-lesson" useful? In the first place, it stimulates the private owner to make of his "swell" house an integral thing instead of an assemblage, though one cannot name the billionaire who has fully learned and applied this lesson, and there is an opportunity still offered to the billionaire, "with an honest purpose struggling in him," as Carlyle has it, who shall invoke the "allied arts" to do him a residence. In the second place, it affects most favorably the allied artists. For, in the work of the "Alliance des Arts," it is manifest that "easel painting," for example, and "independent sculpture," for example, have no

different example, would of itself go far to justify the association of artists in the Chicago Fair or in the Congressional Library.

"They order these matters" so much "better in France," that it is neither remarkable nor blameworthy that the first effect of our first essays in the association of artists in public works, as they coincided in time with the return of American students of architecture from the Beaux Arts, should have been to "Frenchify" our architectural expression. Insomuch that, in architecture, it at one time seemed likely that, as the learned Doctor Johnson put it about language, we should be "reduced to babble a dialect of France." That would have been



THE NEW NORMAL COLLEGE BUILDING

New York City.

C. B. J. Snyder, Architect.

as much as to own that we had nothing to say for ourselves. This is a confession that no American would be willing to make. We have something to say, and the best use of foreign culture is to enable the native to say it, to say it in a vernacular way and in such wise as to be "understood of the people." If, in this year of grace, we find a Parisian academic "project" submitted as the answer to an American requirement, we say with confidence that the youthful author cannot have been "back long." Only one of these projects, apparently, graces the present exhibition. And this lone project, for a "Palace of Social Functions" at the National Capital, though conceived and detailed and rendered in a skilful and knowing way which would have caused some of the weaker-minded among us to hail it as a revelation, say ten years ago, is relegated to gracing the basement wall. On the other hand the "Return of the Native," the Americanization of the graduate of Paris who has been "back long" shows itself in the recurrence of the returner to his American ideals. E. g., in the young enthusiasm of Messrs. Carrère and Hastings for the institution which has proved an alma mater to some American students and an *injusta noverca* to others, they did a City Hall for Paterson, N. J., a building which would have seemed entirely at home and in place, no doubt, in a French municipality of the magnitude of Paterson, but which was not at home and out of place in the Jersey town. Compare this exotic edifice with the design in this present exhibition by the same designers, now for a long time repatriated, for

the City Hall of Portland, Maine. This is a piece of homegrown and indigenous looking "Georgian" which "belongs" as perfectly as the smart and modest Patersonian edifice fails to belong. It belongs none the less for looking, in the comparison at least, a little dull. One can fancy Longfellow going



New South Reformed Church.

Park Avenue, New York.

Cram, Goodhue &amp; Ferguson, Architects.



back to his native town and the home of his "Lost Youth," and finding this latest building entirely congruous with his youthful memories, entirely consonant with his strains:

Often in thought go up and down  
The pleasant streets of that dear old town,  
And my youth comes back to me.

whereas one would have sincerely to sympathize with the sensitive old Portlander who should upon his return find the City Hall of Paterson staring him in the face

old, repulsive public school buildings that they remember into the new and attractive public school buildings that they know has also, in this present exhibition, a project for a Normal College, for the city. He has abandoned the near-Gothic of the old building he is to supersede, in favor of a full-blown and colonnaded classic. His classic is quite the regular thing, quite one of the essays that, as Macaulay says about the couplets of eighteenth century English classic poetry, we no more admire a man for



RESTORATION OF FORT TICONDEROGA.

Alfred C. Bossom, Architect.

and violating all his memories and traditions. Let us hope we have outlived that particular Gallican phase, and that returning pupils of the Beaux Arts will hereafter conceive that what they have had a mission to bring back is not a "ready-made" French architecture, but the power of designing and developing a "custom-made" American architecture.

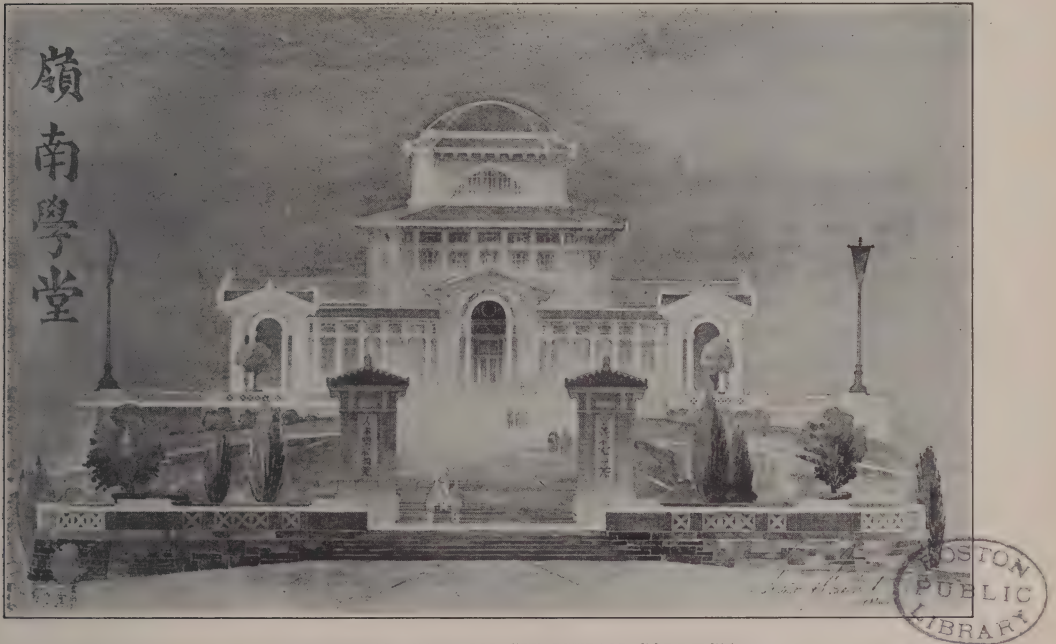
It is noteworthy that Mr. C. B. J. Snyder, the architect of the Board of Education, to whom all New Yorkers labor under such a burden of obligation in transforming the

being able to do than for being able to write his own name. It is "all right" from its own point of view, "very select and respectable and responsible." But one rather wishes that he had continued a tradition by recalling in his architecture that of the building he is invoked to supersede. The old Normal College, designed by A. J. Davis, one supposes, or possibly by James Renwick, has its comic aspects. It is not nearly as good as Mr. Renwick's design for the old C. C. N. Y. in Twenty-third street, which indeed wanted only being car-

ried out in more monumental material and with more refinement of detail, to be a very good building indeed. But the style of the old Normal College is good enough in itself, besides its locally traditional reference to the particular purpose, to have been adopted for the new one, and rendered as much better as the modern architect could manage, which we have every reason for supposing to be very much better indeed.

The "correlation of structure and function" which belong to the best architectural design may, in fact, become difficult to judge of with the increasing specialization of func-

and to such a church this architecture by no means seems the most forcible or natural expression. If, in fact, the building belongs to the Collegiate Reformed Church, we have to thank that venerable institution for adding a third ornament to the city to those it has already bestowed in Mr. Wheeler Smith's or rather Mr. Sandier's, brilliant and picturesque essay in French Gothic in Fifth avenue, and Mr. Gibson's interesting version, in West End avenue, of that masterpiece of the Dutch Renaissance of the sixteenth century, the old meat market in Haarlem. For specific traditional appropriateness, this lat-



LIBRARY, CANTON CHRISTIAN COLLEGE.

Canton, China.

Stoughton & Stoughton, Architects.

tion. Here, for example, is a very attractive ecclesiastical "proposition," very attractively presented by Messrs. Cram, Goodhue and Ferguson, for a "South Church," so-called, at the corner of 85th Street and Park avenue, where it will offer a most suggestive and instructive contrast to the Jesuit church on the corner next below. To look at this front, with the singularly bold perpendicular east window, one would have no doubt that the church was "Anglican" of the straightest sect. But this assumption is upset by the disposition of the plan, from which it appears that the question is of a "congregational" church, which is to say of a church which is primarily an auditorium;

ter offers no doubt a more eligible motive than any mode of English Gothic.

Upon the whole, the strictly architectural exhibition of the League, interesting as it is, sheds little light on the question to which many students resort to it first of all for an annual answer. That is the question "Quo vadis." Whither, architecturally speaking, are we bound? "What main currents draw the years?" What deeper movement is there, if any, than that of the mere caprice of fashion. There is only the showing that we are at any rate bound away from the literal reproduction of French academic "concours" for practical American purposes. "For this relief, much thanks." M. S.





BALTIMORE UNION STATION FOR THE NORTHERN CENTRAL RAILWAY.

K. M. Murchison, Architect.

# **INTER- NATIONAL HOUSING CONGRESS**

The international housing congress of this year is to be held in Vienna in May. The interest in these gatherings, now become an annual event, is steadily increasing and is becoming more and more genuinely international. Invitations go to governments, local authorities, associations and individuals. The program for 1910 is divided into seven sections, and every one of these is of

interest to architects. For example, the themes include: The encouragement of building by societies or by private enterprise, the cottage versus the block, the cost and sanitary and aesthetic merits of various types of houses, by-laws that add to building cost, and the influence of new materials, housing inspection, the purchase of land by municipalities and the planning of suburbs. As on a previous occasion, the English delegation will go in a body, and will find in the congress an ultimate objective point for a tour of investigation.



ALUMNI HALL, UNIVERSITY OF GEORGIA.

Athens, Georgia.

Ludlow &amp; Peabody, Architects.

## ARCHI- TECTURAL ETHICS

Some readers of the Architectural Record may perhaps recall an article of last year, entitled "Architectural Ethics," which set forth a curious and egregious case of architectural plagiarism in Canada. An American architect had been engaged to do some work for a Canadian railroad at the Canadian capital. One day he found himself displaced, and his place taken by a firm of architects of the Dominion. But this firm had the indiscretion to publish their "design" and it staringly appeared that it was simply his design the gist of which they had conveyed. It was rather a complicated problem, comprising a station hotel as well as a station, and dependent, for a negotiable solution, on the consent of the city government of Ottawa as well as of the government of the Dominion. And yet there was not the glimmering of a notion in the plans of the superseding Canadian architects which had not been in the plans of the superseded American architect. If bold "conveyancing" of one man's ideas by another be ever cognizable by a court of justice, this seemed to be a case in which it should take cognizance and jurisdiction. The original architect and his legal advisers took that view, and sued. The result of the suit is a vindication of Canadian justice and of the American architect, very much the reverse of a vindication of the Canadian conveyancers or of their employer. It appears from the report of an Ottawa paper, that the suit has been settled out of court, and that the injured American architect, Mr. Bradford L. Gilbert, has received a considerable sum, stated by our Ottawa contemporary at \$20,000, as damages for the injury which he had suffered from his Canadian colleagues and his Canadian employer. The damages may not have been "punitive" but they were exemplary. It seems safe to say that this particular client will not again play this particular trick.

## NEW SOLUTION OF THE SCHOOL PROBLEM

Everywhere schools are crowded. In the large cities they have perforce to be built up four, five and more stories, and the value of property is increasing so that the playgrounds are becoming more and more microscopic in extent. It is flattering and agreeable to note that it is an architect who has

offered a sensible way out of the dilemma. Dwight H. Perkins, of Chicago, calls our attention to the fact that it is not at all necessary to bring our schools to the children simply because we have always done so. In these days of rapid transit it would be just as easy and far saner to build our schools well out of town—educational villages with centralized management, splendid playgrounds, good air and the light of all outdoors. The cost would be infinitely less than that of city schools. Then provide school-cars for every district of the city to that educational centre. Instead of being at school at a certain hour it would merely be necessary for the scholars to be at a certain corner at a prescribed hour to get on their special car. The thing may seem visionary now, but it is logical, full of splendid possibilities and is what we will be doing before many years.

## TO USERS OF "SWEET'S" 1910

The Architectural Record believes that the importance of "SWEET'S," to the architectural profession, warrants the use of editorial space to announce certain inaccuracies which were not detected until the edition for 1910 had been distributed and which users of the book are urged to note for reference in their individual copies:

Users of "SWEET'S," 1910, should note in the Index of their copies the item "Ball Cocks," which, by some oversight, was omitted, and add under it the name of the Pittsburgh Gage and Supply Co., page 875. This firm should also appear under "Fittings."

Also the Kewanee Boiler Co., page 1002, should be entered under the title "Boilers, Low Pressure and Hot Water."

On page ix of the Index, the trade name of *Berger's Metal Lumber* should include page 356, where a full description of the product will be found.

The Sanitary Water-Still Co. of Jamaica, N. Y., are specialists in Water Purification, but by some error do not appear under that title. Their name should be entered there, with pages 922-23, also under Water Distilling Plants.

On page 1323, Samuel H. French & Co., the fifth paragraph should read "Buck White Lead, manufactured unchanged since 1844."

Also, under "Insulation, Cold Storage" should be entered the Union Fibre Co., pages 378-79.



## COMPREHENSIVE PLANS FOR TORONTO

The report which is issued by the Toronto Guild of Civic Art on the comprehensive improvement of Toronto is a very imposing publication—until one gets to the advertisements at the back. Probably these financed the publication, but fortunately it has not often been necessary to finance reports of such character in this way, and the Toronto report was deserving of a better treatment. An admirable map in color shows the plans at a glance. They include a scheme for two great radial roads, stretching inland from the center of the city; a park system; a system of playgrounds; and a waterfront plan, though on the latter subject no definite recommendations are made—except for outlying driveways—pending the settlement of the railway problem. An important part of the Guild's membership is made up of architects, and the plans were prepared by its own committee. The report is illustrated with telling photographs and contains comparatively little text. But it adds Toronto to that long list of cities that are considering their development in a big way.

## SMALL ART GALLERIES

That an art gallery containing a valuable collection of American paintings should be within the grasp of the little New Jersey suburb of Montclair is a trifle less surprising than is the apparent ease with which the community was thus enriched. Wm. T. Evans, whose residence is in Montclair, offered the town a collection of thirty-six paintings by leading American artists, as a nucleus for a permanent collection, if there would be erected a fireproof building to house them. Immediately Mrs. Henry Lang, also a resident of Montclair, has presented fifty thousand dollars to the town for the erection of such a building, to be museum as well as art gallery. The Municipal Art Society accepted both gifts, and Mr. Evans promptly increased his donation to fifty paintings. That other interesting gifts will follow may be prophesied with entire assurance. Significantly, an art news item that closely followed these was the dedication of the Morgan Memorial Building in Hartford—a structure given to the city by J. Pierpont Morgan, in memory of his father, Junius Spencer Morgan.

## PHILADELPHIA TO BE PLANNED

The twenty-first annual report of the City Parks Association of Philadelphia, which has just been issued, is devoted to a discussion of Philadelphia's "need of a comprehensive plan." Separately inserted in it is a letter from the mayor which says: "I heartily approve the recommendation contained in the twenty-first annual report of The City Parks Association, that experts be employed to prepare a comprehensive plan for the development and growth of the city and its suburbs. This is a subject which has interested me continually and to which I have given especial attention during my administration. I am entirely familiar with the Washington plans, prepared by a commission composed in part of Messrs. Daniel H. Burnham of Chicago and Frederick Law Olmsted of Boston, and I commend the choice of these gentlemen to act with Director Stearns of the department of public works, chief engineer Webster of the bureau of surveys, and Messrs. Trumbauer, Zantzinger and Cret. . . . I will take pleasure in recommending to Councils an appropriation of the necessary funds for the commission." The report names \$50,000 as the sum which is contemplated. So Philadelphia takes up the work. The report, which is prepared with the skill that always characterizes the publications of this association, discusses the need of a comprehensive plan under the heads of transportation and housing, health, and urban competition—but very briefly under all these heads. It gives also citations from statements of the mayor and heads of departments in favor of a plan. The report is illustrated.

## OF HARMONY AGAIN

The Journal of the English Society of Architects prints a paper that was read by Raymond Unwin before the December meeting of the Society. Mr. Unwin's views on town-planning, which was his subject, are now so well known that there is little need of summarizing this latest statement of them; but it is interesting to note that in it he more than once emphasizes, again, the need of co-operation among architects, in order that harmony of building may result. He said: "The passing of the Town Planning bill throws upon the architectural profession the duty to expand the scale of its thinking. We must begin to think in streets, in districts, and in whole



PROPOSED CIVIC CENTER FOR DENVER, COLORADO.

Biscoe &amp; Hewitt, Architects.

cities, and henceforth to regard our buildings not so much as isolated efforts, but as units in a large whole." Again, referring to the peasants' city of Rothenburg—"a unique example of unspoiled mediaeval picturesqueness, the character of which springs not from the possession of supremely beautiful buildings, but from the fact that in the whole of the town there is hardly one that does not show a simple comely beauty," he says: "I would like to emphasize the unity of effect. Almost every building in the town, including the Rathhaus and the Church, is roofed with the beautiful hand-made Rothenburg tile of a quiet brown color, here and there brightened with touches of brilliant red where the tile has cleansed itself, as such tiles will. The buildings are either built of stone, the prevailing tones of which are cream and light brown, or more frequently are plastered and treated with lime-wash of very similar tones. Bits of bright green and grey occur in the woodwork, the whole producing a unity of effect which is quite astonishing to anybody accustomed to the hopeless jumble of materials, colors, styles and forms which characterize the modern town or suburb. And yet there is no lack of variety."

#### DENVER APPROVES CIVIC CENTER

In events of the last few weeks the Denver civic center has become assured. A campaign that has lasted for nearly four years, and which has been stubbornly contested on both sides, has ended in a victory for the civic center project which, though conclusive, lacked any one dramatically triumphant moment. The center as planned is the most

elaborate which has yet been actually authorized by any city except Cleveland, and as there now is nothing to prevent the rapid execution of the plans Denver may realize, even before Cleveland, the dream of an urban architectural center. The plans, which were described in these columns in December, 1908, as under very serious consideration, were officially adopted shortly afterward by the park board. The opposition at once bestirred itself, and under the law owners of lots in the region affected were allowed to file protests. The assessment district was a very large one, for united with the civic center scheme were several other, minor, park projects. In all there were 72,255 lots, representing nearly a quarter of a million square feet, subject to assessment if the plans went through. To defeat it there were required the protests of only twenty-five per cent. of the property. As it was officially estimated that the land to be purchased for the civic center would cost a million and a half, and the other projects an additional million, a considerable amount of protest was filed at once by the element which can always be counted upon to be conservative. Trickery, falsehood and vilification, as it is claimed, were resorted to in effort to increase the number of protests, and this effort was by no means fruitless. For a time it looked as if the remonstrants would win; but as the matter became better understood, and the truth was told, protests began to be withdrawn. When at last the time limit had been reached, and the clerks were set to work, it was found that the legitimate standing protests fell much short of the necessary quarter. The property had acquiesced in the park board's plan. For



all the bickering and agitation, it was, as "Denver Municipal Facts" says, "the determined silence, the splendid spurning of the right to protest on the part of nearly four-fifths of the property owners in the East Denver Park district that won the day for a more beautiful Denver." The triumph is the more significant because the proposed plans, while appealing strongly to a cultivated aesthetic sense, lack that element of obvious utilitarianism which a taxpayer may see in a great building or in a pleasure ground. The appeal was to the pride of Denver, to the wish for a splendid and magnificent city.

#### OFFICIAL

#### PLAN

#### COMMISSION

The young new year has already witnessed not merely a remarkable growth of the city-planning movement, but—a fact of possibly greater significance, as marking the definite beginning of another chapter for the movement in this country—it has been marked by a pronounced official stamping of city planning. There have been sporadic examples for a long time. At the very end of December Mayor Busse sent to the City Council of Chicago the names of 350 citizens whom he officially appointed as a "Chicago Plan Commission." Of course, the Commission is very large—that is the Chicago way; but it may be observed that members of the City Council, presidents of the School Board, Park Boards, County Board, and the Sanitary District are ex-officio members of it. Until this time the Chicago Plan, paid for by private subscription, had as sponsor only a commercial organization. Any portion of it which the official commission approves will have a vastly improved chance of realization. Buffalo has presented to the Legislature a bill to authorize the creation of a commission, to consist of an architect, a civil engineer, an artist, three non-professional citizens to be appointed by the mayor, and, in ex-officio capacity, the mayor, the commissioner of public works, and the presidents of the aldermen, councilmen, and park board. It is to be called a municipal art commission; but the idea is not to have its powers simply those of suggestion or of the veto. It will have the planning of parks, streets, public buildings, esplanades and other public works, and its decisions will be binding on the city boards unless the boards reject them by unanimous vote. The mayor of Newark, N. J., has recommended that a commission be created for that city; and in Seattle a city ordinance

has just been prepared, with the backing of professional and commercial organizations, calling for submission to the people of a charter amendment providing for the appointment of a city plan commission. Meanwhile, the voluntary movement also extends. It is announced that citizens of Portland, Ore., have subscribed \$20,000, banded themselves into a Civic Improvement League, and engaged D. H. Burnham to make plans; and in Rochester, N. Y., a fund not as large as Portland's, but very considerable, has been privately subscribed, a civic improvement committee formed, and Arnold W. Brunner, Frederick Law Olmsted, and Bion J. Arnold retained to make plans—a local city planner having chosen an unsalaried office on the committee rather than membership on the Commission.

#### BOSTON CUSTOM HOUSE

With the beginning of the new year, the office furniture and the clerks and messengers that belong with it began to move out of the old Boston Custom House that the construction of the great tower might commence. A writer in the Boston "Transcript" has contributed two columns and a half on the significance of the transformation, beginning with the words: "Questions of the taste or justice of thus remodelling the building may be waived. It may or may not be good architecture. Enough that it represented perfectly the life of a Boston that is gone. Enough that the tower is going to be built, whether we like it or not." He gives some interesting facts about the structure, begun September 1st, 1837, and thus considered old. It was, he says, "a daring project, on 'made land,' surrounded in the construction by an apron, or dam, that rounded far enough away to intersect Commercial Street. Three thousand piles were driven for a foundation to be overlaid with a platform of granite eighteen inches thick, set in hydraulic cement. From this, far below the rumble of the streets, the vaults of the old Bastille spring their first gloomy arches." He likens them to the dungeons of Europe—a queer bit of mediaevalism in the heart of the modern city. "A staircase of solid stone, with a rusty iron rail, winds down into the place from the street level, and the candle gutters in the hand of the guide. Avenues of thick, squat pillars, rough hewn of granite blocks, supporting low groined vaulting, narrow away into the gloom." On three sides there are winding tunnels, "walled in

solid blocks, angle beyond angle, link beyond link," finally ending in a long narrow cell. "Spider and insect wage endless war in these caverns. Nobody else disturbs their silence and their solitude." The thirty-two columns of the custom house porticos were the wonder of their time. "Each was hewn out of a solid block of granite and hauled from Quincy on specially constructed wains, drawn by forty yoke of oxen. . . . Writers indulged in solemn remarks on Pharos and the Pyramids. . . . The building, as it stands, contains the same number of cubic feet of stone as the Bunker Hill monument. Its interior is a group of stone caves of varying sizes, better lighted and ventilated than might be supposed. Its stairways go up as firmly as time to the Judgment day; it is roofed with granite slabs. Three years were required to lay its foundations, and seven more to complete the building. In some of the rooms marble window and door facings are monumental enough "to flank the entrance to a mausoleum." Yet the old Custom House will be but the base of the Custom House that is to be. When the new tower soars from the site of its present dome, it may be said that the ancient building has passed. The very modern tower protruding from the very old-fashioned pedestal will be as a symbol, the writer points out, "of what has been going on in Boston for the last sixty years—legible still in a few such places as the Custom House, the old Fitchburg Station; in certain architectural features of the Boston Theatre, and in streets of grave old houses in the West and North ends—the new engrafted upon the old, somewhat to the detriment of both; but none the less inevitable."

#### **METROPOLITAN IMPROVEMENTS FOR BOSTON**

The special joint board of railroad, harbor, park, and transit commissioners, which was appointed by the Massachusetts Legislature, to consider and recommend improvements for the Boston metropolitan district, has made a report. As might be expected, the suggestions are as little visionary as any recommendations for the future can be, and are absolutely concrete. This joint board is certainly a very interesting experiment. The board advises the state's development of its flats, and the building of piers, at South Boston; that the city convey to the state the flats in front of Wood Island Park and certain other flats and lands, and that yet other land and rights be secured, to the end that a car storage yard and traffic road may

be built; that the railroads be summoned to conference and required to report before September 1st regarding the electrification of freight and passenger service in the metropolitan district; that the opinion of the Supreme court be secured on the legality of taking by eminent domain a strip of property not only wide enough for a new thoroughfare, to connect the North and South stations, but of such width as to provide lots on either side of it large enough to be then sold for the erection of business buildings, so that the city might recoup the cost of the undertaking—as New York has often wished it could do, and as cities of Europe and South America frequently have done; and finally that a new traffic road to Lynn be opened. This is a constructive program which is large in extent and metropolitan in its grasp. Most interesting, too, is the fact that the post-election statement of Mayor-elect Fitzgerald, made about a week after this report appeared, and in the first flush of his victory, contained these statements: "It is my intention to work for the different planks in my platform. . . . There is as much reason for the electrification of the steam lines within ten miles of Boston as there is in electrifying railroad lines at a longer distance from the city of New York. . . . I shall not be afraid to go before the Legislature and advocate public improvements which, while costly, at the same time will be of vast benefit to the city. I believe in the law operative in England, which permits the public authorities to take land on all sides of street widenings or street improvements, and get the benefit of the public improvement. By this method these improvements have cost London and other cities little if any money." Under the new charter the mayor-elect of Boston has enormous powers.

#### **EXPOSITION IN BUENOS AIRES**

Though 1910 is an off year for expositions in the United States, the souls of those who like such things and who have the means to journey in pursuit of them, need not starve. In addition to the Exposition in Brussels and the town-planning exposition in Berlin, of which mention has been made here, there is to open on May 25th, in Buenos Aires, an International Exhibition of Fine Arts, commemorating the first centenary of the independence of the Argentine Republic. Architecture is properly included among the arts to be shown, and all the principal foreign governments have been asked to take part.



# ARCHITECTURAL TRIBULATIONS

There are those who asseverate that the A. I. A. is no longer a Society of learned men banded together for professional and soulful uplift, but has become just a plain, every day, labor-union, whose chiefest function is to fix a scale of charges, to scare the employers, to give the big guns a certain prestige and to see that all the members keep their license-tags on straight. An' e'en so, most of us need just such solicitous care—in the matter of competitions, for instance. It would perhaps be well if the A. I. A. could keep its members out of them by the vigorous use of the biggest of big sticks. Those competitions that are presided over by a professional adviser are bad enough and certainly full enough of surprises, but the others are, well, worse. Indeed, is there not something somewhere in the written ethics that forbids the brethren entering such? Nevertheless, those who decline to enter these unholy and uncounatenanced competitions are amazingly few. The others scramble over each other to get into them and upon any terms or no terms. The result is that the whole blessed profession is held in very low esteem by the layman, the employer, who feels that he has but to crack his fingers for us to tear out each other's eyes in our efforts to give him our valuable services and at the rate of compensation prescribed by the A. I. A., but with a slight rebate of 1, 2, or 3% especially to him!

What suggests this particular thought is the report I have before me describing or reciting three "decisions" that have been made in the last couple of days in three rather important competitions. One was a big State job—no architectural advisor. The award was made to a friend of the Board absolutely regardless of plan, a pre-settled affair, and some of the competitors were blandly informed that the competition was called only because the laws directed that public work had to be awarded in competition. Two other architects did get a few hundred dollars in second and third prizes.

The next was a bank building, twenty-seven competitors, and not small fry either. No advisor, no prizes. Plans all received and very much admired, but competitors informed that the directors had changed their minds and instead of building merely a bank building they now proposed to go on up with a twelve storied office building. The competitors were "thanked" and told that

the Board would be very glad to have them also compete for this new project. The gentlemen have signified their intention of doing so, and five additional ones have begged for the privilege of getting in.

The third was an educational building—an architectural advisor, but no prizes and no fees. Award made apparently on merits, but the successful man being young and without experience, the trustees declined to give him the job. The man with the experience that they wanted and to whom they have given the job was not even a competitor, but it was suggested to the young man that he might sell his design to this "successful" architect, and it looks as though he would.

Oh, a most noble profession!

In at least some cities the regulations as to projections of buildings beyond certain lines have been made without due regard for the law in the matter. It all depends upon the charter of the city and whether it absolutely owns its streets or merely has the use of them. I had an interesting settlement of the matter in one city some time ago. A building extending from street to street, a narrow block. Ten feet more would have given us another entire tier of offices, and in twelve stories that would amount to something. A happy thought occurred to me to project a "bay" on each front, the entire width of the building, from the third story up. It was a pretty big projection, granted, but it was rather attractively designed and there was really nothing offending about it. But, of course, the city raised high jinks and the adjacent property owners joined in the suit, and there was a glorious row, injunctions and what not. The owner was game, however, put up unlimited bonds and went on with the building. The case was dragged through several courts, was tried over again and with all sorts of legal quibble, but the Supreme Court of the State finally decided that according to that city's charter the individual lots extended from centre of street to centre of street; that the use of the streets only was vested in the city with the necessary light, etc., for traffic, space for roadway, for water mains and so on. And their Honors further added that, provided the owner allowed sufficient light for traffic and placed no columns or other obstructions in the street and took care of all drains, etc., under it, he could build as far

out over it and under it as he saw fit, to the very centre of the street if desirable. And we did run our sub-cellar well out beyond the curb.

My recollection is that the New York and Chicago charters are not as is this one I refer to. In those two cities, anyway, the streets are deeded to and owned by the city and all the space above them and below them.

---

Our confrères, the marine architects, can certainly give us many pointers especially in utilitarian matters. A ship is just as beautiful as any building and yet there isn't a thing sacrificed to "design." They do not use the ancient lines of galleon-beak and royal-poop-deck and a forest of masts and spars, all useless and meaningless now, simply because their fathers' fathers built ships along those lines. The port-holes are put where they are needed; if a beam is required in a certain place, there it goes. It may be ornamented afterwards, but it isn't left off for some especial effect, nor is one put in that carries nothing, but simply to look as though it did.

And in the matter of fire-prevention, too, are they a long way ahead of us. They fully understand the philosophy of small units of space and the absolute enclosing of those spaces. Their bulkheads are perfect units and the doors enclosing them as invulnerable as a safe-door. On the other hand, we, or most of us, go sublimely on using "fire-proof" construction but displaying but little intelligence in putting together the materials. We strive for the very largest possible units of space and kick at the building-regulations that curtail them; we do very many things about a building that are sensible and fire-retarding if not fire preventing, but generally neglect some one thing that pretty nearly vitiates all our other efforts. In one building, otherwise well handled, windows upon a narrow alley will be unprotected. That means that fire can get in that way and destroy all the contents and perhaps damage the structure itself 25% or more. In another possibly even the windows will be protected, but, glory be, there are two or three stairways or an elevator shaft open from basement to attic, a clean, clear runway for fire, something that will assure positive and rapid spread to every story and that in a jiffy. Think of it, in all this broad land of ours, with its something over thirteen million buildings, there are probably not over nine thousand of them even moderately fire-resisting, and of that number, again, I am sure there are not five in which

the architect has not done some fool thing or other, absolutely unnecessarily, that jeopardizes much if not all the contents of those buildings and their very structures to a very great extent. While upon the subject it may not be amiss to also note that in the past year of grace, 1909, at which period we were supposed to have some sense and to know something about the elimination of the fire-risk in buildings, 60% of the construction done was wooden frame!

---

Struggle as we may to "beautify" our cities (for in spite of Mr. Gilbert's objections, appropriately or not appropriately, that's the term that has been coined to describe the way certain things are to be done and "beautify," or "city beautiful" is what it is apt to remain) there is a certain element, stronger than we are, working just as hard to mar them, to utterly spoil them. My compliments to the speculative home-builders. They build houses by the mile, the most ugly, God-forsaken things that ever came over the pike, nightmares, blocks of them, cheaply built, shoddy in most part, but that sell upon the easy payment plan and sell like the proverbial hot cakes. In our national capital there are, at present, two or three such kind-hearted gentlemen furnishing houses for the multitude. In one district alone they have slapped up fourteen solid blocks of them within the past few months. Dismal barracks! You'd never dream you were in the Capital City of a great country, but rather at some army-post where countless troops had to be quartered in comparative comfort but sans "beauty." May Heaven forgive the man who gave these fellows the original design. The plan isn't half-bad, some comforts and certainly great economy of space, but oh, *that* exterior, repeated fourteen hundred and seventy-five times, and then again fourteen hundred more.

Of course, I understand that to get them within a certain figure every detail must be considered and no great diversity, as to size of windows, etc., can be indulged in, and, besides, if a twenty-five dollar design will do for the whole batch, what's the use of paying another twenty-five dollars for another design? The architects can't get anything out of these chaps, they have the right on their side and there seems to be nothing to prevent them from perpetrating these miles and miles of hideousness. But, it seems that the various chapters of the Institute, in sheer public spirit, could combine and induce these builders to adopt block designs that the Institute might get some of its members to work off. A de-



sign for a block as a unit, it might be with continuity, a feature or two using stock sizes of windows and all that, but infusing a bid of character, a composition of the whole. Such a block would certainly be infinitely less monotonous than the forty or fifty individual boxes nailed together. Have two such block designs, alternate them, and note the vast improvement there would be in a district. We must be a poor lot if, aided by the Boards of Trade and Chambers of Commerce, we could not get these builders to adopt such block designs that we could give them, as a gift.

---

Speaking of contractors calls to mind a discussion at the recent convention that was intended to be exceedingly serious but was one of the most humorous things I ever heard. It was solemnly stated and complainingly that some of the big building-companies were usurping the functions of the architect and were not kowtowing to him sufficiently low to impress him with the belief that he was still accepted as the great "I AM" on a building. It was further and just as dramatically suggested that as a punishment to these arrogant usurpers *we* let the contracts out separately to each trade, thus wiping out at one fell swoop the whole breed of general contractors. Bless you, children, but you were whistling to keep your courage up and must have felt a certain strength in numbers, besides, some of the Willard mixtures are famed for their (temporary) backbone stiffening propensities. In our big projects, in nine cases out of ten, the building companies or general contracting concerns finance the deal, have a large if not controlling interest and themselves dictate who the architects shall be. They tell them what is wanted, prepare a large part of the drawings and, to sum up, the architect has about as much authority there as the Vice-President has in the Senate. And to get right down to it, it is more through courtesy for the profession at large that the architect is there at all than it is through any sense of real need for him. It is only that sentiment that keeps him there. The building company could very well add a designer to its very large corps of engineers, specialists, and draftsmen. Who says that that will not be the mode of doing things before very long? And whose fault is it if the profession has lost some of its dignity and power? Talk of "usurpation." Poppycock!

---

Still on the subject of contractors we find one architectural journal lambasting another for printing cuts of buildings to which the

names of the builders are added to those of the architects. Fault is found with that and the simile is given of a great painting that would be signed by the artist and also carry the names of the canvas maker and the paint maker. I submit that that is not a fair parallel. If the painting were a colossal panorama reproduced from an artist's small sketch the names of the latter artist and of the reproducer of the big canvas could both well be upon the latter. A building is an architect's conception, granted, but the builder contributes in no small part to its success.

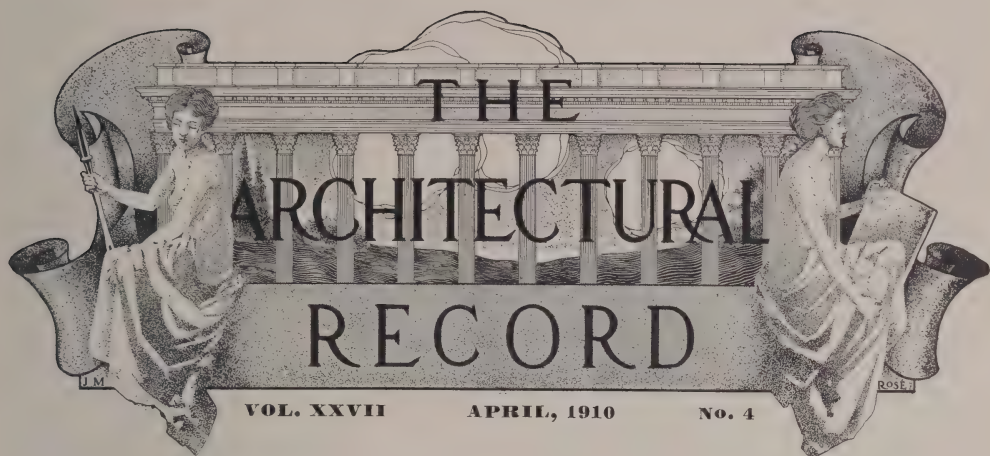
Important buildings, bridges and ships should conspicuously bear the names of their designers and of their makers, the opinions of some architectural journals to the contrary notwithstanding.

---

Upon every hand are we beset with learned and other treatises, comments, and tirades anent the heightened and increased cost of living. The middle man is pelted right merrily with all kinds of missles. His is the fault and his the profit. The farmer is as poor as he used to be, and so on ad nauseam.

And so it is alleged of building. Perhaps it is that the whole thing is purely an imaginary, fictitious rise, one caused by the more plentiful supply of gold, reducing the intrinsic value of that standard and making it so that more of it has to be paid for any commodity purchased. But, in so far as building is concerned, we must recognize that the increased cost is not due, even in minor part, to any increase of profits to builders or material men, but almost exclusively to the increased cost of labor, labor in erecting the building and labor in producing the materials. Not only does every branch of that labor receive much higher pay than it did twenty or ten years ago, but its hours of work have been reduced, in some cases, as much as 30% and, more than that, the workmen do less work per hour than they did under the old regime. Both the quantity and the standard of excellence of the work have been reduced by the labor-unions to fit the ability of the moderately capable members. And there is absolutely no incentive for the very skillful ones to "throw" themselves. Indeed, by so doing they but injure their own standing in their unions. It's not for me to say whether all this is good or bad. That's a question for the socialogists and economists to settle,—if they can agree—but what I do combat is the oft-repeated assertion that the high cost of building is blamable upon the *rapacity* of the builders.

F. W. F.



## The Transmutation of a Residence Street, Resulting in Another Solution of a Utilitarian Problem by Architects

Probably never before has a popular mechanical invention had such a potent influence in diverting a prominent street from its original purpose and, incidentally, influencing the development of a pertinent style of architecture as has the automobile in transmuting Michigan Boulevard, in the city of Chicago, from a residence to a business street.

Ever since Chicago became a city of importance, and that was within the memory of men still living, Michigan Avenue has been a street to be proud of. In its earliest days, say, between 1850 and 1870, its northern extremity was noted as the favorite location for the residences of Chicago's wealthiest citizens, and it was improved in this manner from South Water Street on the north to Sixteenth Street on the south. From Randolph Street to Park Row its east side, bounded by a long and narrow park, afforded an unobstructed view of Lake Michigan from the opposite side, and this was an additional attraction which led to the erection of fine residences on its west side. After the Chicago fire in 1871 the avenue was

set apart as a boulevard and turned over to the government and regulation of the South Park Commissioners. Then it was gradually rebuilt with business structures and hotels as far south as Congress Street, the part of it on which all the buildings had been destroyed by fire, and the erection of an even better class of residences was continued up to recent years as far south as Thirty-ninth Street. South of that point most of the buildings erected within the last ten years are apartment houses of the better class. The whole boulevard for a distance of six miles was in this condition until about five years ago, when few private residences have been erected.

Gradually within twenty years past the old dwellings and cheaper business buildings have been replaced as far south as Twelfth Street by still better commercial buildings and great hotels, which are famous, not only in Chicago, but throughout the world, and this has been the result of the gradual expansion of the business center of the city.

But another change has come over this street within the last five and mostly





FIG. 1. AUTOMOBILE ROW.

West Side, from 14th to 16th Streets, Michigan Boulevard, Chicago.

Various Architects.

within the last two years. This was to be expected, but not in the way in which it has occurred. It is a well established fact in connection with the expansion of all American cities that retail business always follows and absorbs property in the direction of the best residence streets. It had been anticipated that something of the kind would occur in Chicago. But Chicago is really three cities with physical lines of separation, surrounding a central congested business district common to all. Which way the "cat" would first jump no one knew.

But the automobile has settled that question as it has not elsewhere. Michigan Boulevard, since the "auto" came into extensive use, with traffic teams forbidden and its splendid bitulithic pavement, has been the longest and best automobile course in any city of this country. At the present time this is so emphatically the case that a horse is seldom seen on it. Since the recent heavy snows, which have accumulated to a depth of at least eighteen inches before being packed, the whole roadway is a series of grooves and chain prints, with scarcely ever a hoof print; for even sleighs have disappeared. The dealers

in machines have from their first appearance used the Boulevard for trying them out for customers. From this custom their attention has been attracted to its advantages as a location for their exhibition buildings and offices. It did not take long after one company erected a large building for the purpose, on the corner of 14th Street, before others sought locations. But the street was nearly all occupied by costly residences, and it was not easy at first to procure building sites. The property had been held at a high price always for residence purposes; but owners soon yielded to the demand at a higher price than formerly, and some tore down their houses and built stores, which were quickly rented. The "auto" people from all over the city then began to besiege the property owners for more sites and buildings, and the natural consequence was a "boom" in the prices of lots. Now nearly all the property for two miles is "for sale" at boom prices; many of the old families are in a panic to get away from the street; some because they want to sell at high prices, and others because they are sensitive to the association with trade. This state of affairs exists from Twelfth



Fig. 2. Continental Casualty Co., Nos. 1208-10-12.  
Jenney, Mundie & Jensen, Architects.

Street south to Twenty-sixth Street, and scattering properties have been sold along the Boulevard as far south as Thirty-ninth Street, four miles from the business centre of the city, where a large store and factory combined is to be erected.

The building of residences on Michigan Boulevard is at an end, and it is not likely that any more buildings, except apartments, will be erected south of Thirty-ninth Street, which twenty years ago was the southern limit of the city. What with the use of the roadway by the

thousands who now go up and down town between house and office or store, the shopping crowd that is too dainty to put its feet on the pavements and the "auto" dealers "showing off" their machines, the Boulevard is a lively street, with a continuous stream of machines going both ways at all hours; sometimes two abreast, and at all speeds. It is no easy matter to cross it safely at any time; but this all means "business" and, now especially, business for architects and builders. The Park Commissioners, where the Boulevard passes Grant Park, have widened the street thirty feet, and divided the driveway by long "isles of safety" and a row of lamps in the center. This is where the greatest rush occurs in front of the hotels and theatres.

The erection of "auto" buildings is now mostly seen between Twelfth Street and Twenty-sixth Street, a distance of about a mile and a half. Within this space have been erected within the last two years from thirty to forty new buildings nearly all for the auto business and all with from fifty to one-hundred feet of frontage. They are two stories, three stories and four stories high above the street grade. Most of them are three stories and some are seven and eight stories high. A very few other kinds of business are interspersed between them, but high class retail business has thus far taken up only the properties north of Twelfth Street fronting Grant Park near the new hotels. Here the high fireproof building is in evidence, and it will not be long before the whole lake frontage is built up with such structures where it is not now so occupied.

The development in architectural design as seen in these automobile buildings is the main occasion for this article. They have furnished the most recent problems for solutions by Chicago architects. The carriage business, heretofore so extensive, has not furnished any material precedents for them. For the display of the goods and the maintenance of any considerable stock, they require very large show windows, and large space on a level with the street. Fortunately the lots on Michigan Boulevard are very



Fig. 3. The Reo (on left) and Spierling & Linden, Decorators (on right), 1218-20-22.  
Howard Shaw, Architect.





Fig. 4. Ford Motor Co., 1444-G.  
Christian Eckstorm, Architect.

deep, about one hundred and eighty feet. This makes it possible, besides the show room in front, and the office on the second floor, to have a large one-story extension running to the alleys and large enough, without obstructing columns, to demonstrate the operation of machines without going outside. The use of so much gasoline indoors necessitates that these buildings be fireproof and thoroughly ventilated. It is also necessary to have a place for washing the machines after trial on the road and a small machine shop for quick repairing.

New problems in plan naturally suggest new problems in design; because of the difficulty of using the old conventional details. Freedom from the old precedents in design is the natural consequence. If it appeared that only a few architects had given their imagination more play than the dictates of discretion had suggested, there would be no occasion to consider the incident important. But it is facts that we are dealing with, and the fact that so many of them have, without concerted action, solved these problems in so nearly a similar manner only goes to show that if many minds work in concert, without premeditation it must be the best evidence that there is a good reason for it, and the question therefore arises: Do these buildings portray a natural evolution in design?

From the illustrations to be given it will be possible, perhaps, for the reader to realize whether or not the rational treatment of the designs for these build-

ings is the right one. It is not to be expected that many of them will betray beauty of form or color—they are mainly utilitarian. But on account of their location on a street notable for very good architectural improvements it is natural that designers should have sought to make them more attractive than purely utilitarian factories and warehouses. Therefore, it is here that we must look for the first development of a feeling to make them at least more than ordinary; to introduce decorative detail, not inconsistent with the service to be performed by the materials employed. If this is done consistently it is evident that here we must look for the crude beginnings of a new architecture. And if it can be so called it is not to be praised too highly, neither is it to be condemned rashly, because it is new, if the effort is honest.

These buildings, while built substantially, will not be required for the present usage many years. But they are well adapted to be given over to the uses of



Fig. 5. The Moline, 1508.

retail trade, which in due time will invade the same locality demanding generous show windows and large floor spaces. As land values mount upward they will be displaced by larger and higher buildings and will be regarded as merely stepping stones in the evolution of a better and, let us hope, more beau-

prominence. The majority are only two stories high and their temporary nature is evident. Yet many of them have been carefully designed. They are by various architects.

The other illustrations following are of buildings of greater prominence and value, being interesting mainly as show-



FIG. 6. THE MAXWELL-BRISCOE.

Northeast Corner 18th Street.

W. E. Walker, Architect.

tiful architecture than we have yet produced.

A few of these new automobile sales buildings have been selected for illustration. Figure one is called "Automobile Row," because from Fourteenth to Sixteenth Streets, a distance of two city blocks, all the residences on the west side of the street except three have been torn down and replaced by stores. All of these are either sales buildings for automobiles or for appliances connected with their manufacture and equipment. None of them has much architectural

ing the evolution of design. They represent the medium class which we can now see in their completed or nearly completed state. While this is being written many more residences are being torn down to be replaced by business structures. The destruction has not spared one of the larger churches on the Boulevard, located at the corner of Twenty-third Street, while excavations are in progress at many points, and work has been commenced on other buildings which will excel those here illustrated in size and cost and possibly in design. One





Fig. 7. Locomobile, Southwest Corner 20th St.  
Jenney, Mundie & Jensen, Architects.

project contemplates a building the whole length of a block and twelve stories high. But that is a matter for the future.

The titles given to the illustrations, for the sake of brevity, do not mention Michigan Boulevard, but the buildings all front that street. The street numbers only are given, and they appear in due order from north to south, one hundred numbers being apportioned to each block. Only two of the illustrations show buildings not devoted to the automobile business, Figure 2, which shows the new building for the Continental Casualty Company, of enameled terra cotta with a



Fig. 8. The Studebaker, Northwest Corner  
21st Street.  
W. E. Walker, Architect.  
(Showing method of concrete construction.)

gray brick border, by Jenney, Mundie & Jensen, and Fig. 3 which shows besides the Reo Building the house of Spierling and Linden, decorators, both by Howard Shaw.

Nearly all of the automobile stores are of enameled terra cotta in tints either white or buff, and different kinds of pressed or paving brick. The Maxwell-Briscoe Building (Figure 6) by W. E.



Fig. 9. The Mitchell, Nos. 2234-6-8.  
Jarvis Hunt, Architect.

Walker, is faced with "wire cut" brick of a deep brown color, laid with scraped out joints. A very lively effect comes from the fact that these bricks are of uneven color. They are preferred for that reason. The enameled terra cotta is of a decided buff color, and makes an excellent contrast, while the modeled ornament over some of the windows is very effective.

Figure 8, showing the Studebaker building, which is to be devoted entirely to the sale of automobiles, and also de-



FIG. 10. THE PACKARD-DETROIT.  
Northeast Corner 24th Street.

Albert Kahn, Architect.



FIG. 11. THE DETROIT ELECTRIC (ON THE LEFT), NOS. 2416-18.

George Mason, Architect.

THE CADILLAC (ON THE RIGHT), NOS. 2412-14.

Jenny, Mundie & Jensen, Architects.







Fig. 12. The Pierce, Nos. 2420-22.  
Jenney, Mundie & Jensen, Architects.



Fig. 14. Nyberg, Dealer in all Makes,  
Nos. 2435-7.  
Howard Shaw, Architect.

signed by Mr. Walker, is very different. It is introduced to show the concrete construction, which is faced on the outside with the same "wire-cut" bricks. This building is to be seven stories high.

Figure 11 shows two buildings faced entirely with enameled terra cotta. The Stearns Building (Figure 13) is faced with enameled bricks, the color effects being produced by inlays of stone. Figures 14 and 15 show effects produced mostly with paving bricks and cut stone. No. 14 is a combination repair shop and sales room and No. 15 is a taxi-cab garage. The material and design in these last two cases are appropriate to the pur-

poses of the buildings, but not to the character of the street.

The most original and attractive of all these buildings is Figure 16 by Holabird & Roche, for the Duffy Automobile Company, which is not quite completed. It is of gray pressed brick and white enameled terra cotta. It should not be called Gothic, for it is not like any building ever erected in the Gothic period. The treatment of the corners and the cornice, which serves to unite all the angles of the building, is very effective. It may have been suggested by Italian models



Fig. 13. The Stearns, Nos. 2431-33.



Fig. 15. A Taxicab Garage, Nos. 2441-43.  
Robert F. Smith, Architect.

and yet it is not Italian. The cornice is more English than Italian. The brickwork it will be noticed is one unvaried surface, serving to make the window tracery all the more effective by contrast. And this tracery is not copied from any English model. The plainness of the window

openings also serves by contrast to accentuate the tracery. It will be noticed also that all the windows run from floor to ceiling, leaving no room for transoms. This will, therefore, fittingly conclude the list of illustrations.

*Peter B. Wight.*



FIG. 16. DUFFY AUTOMOBILE CO., NORTHEAST CORNER 25TH STREET.

*Holabird & Roche, Architects.*



## Thought and Expression in Architecture

A recent inspiring article in this magazine\* has again pointed out some of the difficulties of our schools and to the necessity for thought in and about our architecture. The immensity of the opportunities confronting the profession do, certainly, call for profound reflection, perhaps especially with regard to its educational problems.

Architecture ranks among the fine arts because it is an art of expression. It goes without saying that in the development of resources in the way of materials and structural systems, and in the arrangement and expression of the useful areas of a composition that the architect of the present day has far surpassed all his predecessors. In one respect, however, architects and the schools in which they are trained have obstinately refused to make progress. It seems almost as if every arrangement had been made in the schools and in the offices to exclude and prevent progress in this direction. There is a rumor to the effect that, in architecture, where there is a change of material there should be a change of form; but the student is nevertheless taught to design by imitation. He is encouraged to imitate architecture in materials of which he knows nothing. He studies from Vignola, a book that knows no materials. He will probably not use materials precisely similar to any of those of the architecture which he analyzes in his historical studies. He knows nothing of the processes by which those materials were shaped and put in place. And he is not taught in designing to consider the materials and processes in and by which his buildings will later be executed, but always and only to compose. Now, is it important or is it not that every student of design should be trained in that phase of his art which gave to the buildings of the past that particular virtue which alone our archi-

ture lacks, the expression of materials and structural systems?

The development of this particular expression constitutes the opportunity of the architectural world. Will schools and architects step forward and enter into it, or will they wait again for the compulsion of the client? Planning has improved because of the demands of the client. The tendency to ultra-conservatism was as strong in this respect as it is in façade. Its irrational effect, wherever it exists, is amusingly illustrated in the minute windows of certain modern English houses, far too small, as the whole civilized world knows, to render the interior upon which they open wholesome for human habitation and still foisted upon clients who are convinced that, although they cannot understand it, there is some mysterious virtue in the appearance of a porthole in an acre of blank wall. Progress has been made because people, all the people, and the architects last and most reluctantly of all, saw, for instance, in dwellings, that they must have, instead of mediæval habitations, light and air and privacy and sanitation. The client has required, also, the adoption of steel and concrete. These changes from more historical materials have played havoc with cherished proportions, but have shown again the truth of the ever new and startling fact that there is no certain set of proportions inherently more pleasing than some other set that can be devised. At this point the demands of the client have, for the present, ceased. Having been responsible, really, for all the progress that has been made, in his role as the originator of all the programmes—that part which the architect does not initiate—he has given up trying to understand what the architect does with the surfaces of his buildings. He knows that the result is expensive, that he ought to like it, and he conscientiously tries. But it is going to appear to the educated public, presently, that they are as hardly used

\*Drawing, Designing and Thinking, W. R. Ware, September, 1909.

in a design which arrogantly refuses to explain itself or in one boldly presenting a false and borrowed explanation, as they are in the case of the unquestionably pretty window which just as certainly fails to admit the light and air of which there is so much need. The layman understands motors, and literature, and music, and is presently going to take the safe ground that if architects really understand what they are about and take any pains to make themselves clear, he also, the person of average intelligence, can understand their productions. From the division of interest in the public between the hand-organ ballad and the grand opera, it is clear that appreciation of an effort to be understood on the part of the designer would not necessarily be universal; still, from the eagerness with which much twaddle which professes to convey information with regard to architecture is now eagerly consumed, it is clear that there are many keen for knowledge. The architects who add themselves to that select number who are now producing sane and sound, and beautiful architecture, clear and comprehensible, are those who will contribute most to that fabled new architecture of the future.

First and foremost in the comprehension which the layman so earnestly desires must come the notion that an architectural composition is a unit, just as is a composition in music, or in language, or in sculpture, that in this unity every part must be relevant, must have some function to perform. If a part is present which performs no palpable function, or if its function is to make clear, and it is expressive of something beside the structure or the subject in hand, it is out of place, distracting; the whole in which it is contained is deficient in unity. The function of the parts in a composition may be structural, emphatic of structure, or emphatic or descriptive of the ideal purpose or character of the whole. The term decoration is not used, because decoration either falls within these definitions or is irrelevant. The compositions of Greece, Byzantium and mediæval France will, for the most part, endure analysis without the emergence

either of redundant or meaningless parts, or parts which have a meaning at variance with their actual construction.

But how can this proposition, excluding, as it does, so much of the architecture of the past, be well founded or acceptable? There should be no more hesitation in accepting such a conclusion than in acknowledging the authority of an English grammar and dictionary that deny the complete excellence in spelling and construction of pretty much everything before the middle of the last century. No one is outraged by the dictum, in letters, that although Shakespeare wrote with monumental effect, employing certain constructions, that some of those same constructions are impossible to a well-educated person now-a-days. On this same ground, there can be no objection to the statement that architecture ceased to be alive when it no longer quivered with expression in every part, and that it will never again come alive until every designer gives up copying expressions and says what he has in his own mind.

The codification of the grammar and rhetoric of this art are inevitable in the near future. Not that there are not already lengthy discussions of the subject-matter of architecture with a few valuable references to guiding principles of perfectly general bearing. These books are certainly of great value, but they endeavor to set down definitions of those parts of the matter of architectural expression which correspond to the ideas and motives of the written work. It is as if the rhetoric should, instead of discussing the manner of expression, take up seriatim all the subjects that the student might ever wish to argue or expound, giving a detailed treatment of each. One task is as possible of satisfactory completion as the other. What is more essential to continue the figure, is to explain the etymologies of the architectural words. This study will immediately show, first, how unfitted the old words are to the meanings in which they are now used, and, second, the possibilities of combinations which will give new words for new meanings. With the single term Corinthian capital for



multiple structural situations in many materials, our vocabulary is as poor as if we were limited to the word chariot for all our horse-drawn vehicles, the motor car and the aeroplane. The recent development of the study of pure design makes possible this study, and, further, the investigation into the manner of expression in this art dissociated from the matter. This is, beside the development of his sense of beauty, what the student should be trained to extract from the monuments of the past in Europe. When the subject is squarely faced this is all. The forms of use of all the monuments, their position, measure and shape, are practically all different from anything called for by the programmes of our own day; and we have, beside, developed new and different structural systems. The effectiveness and beauty of the monuments are due to methods of expression which will be no less serviceable again. The subject of his oration the orator may commonly not choose. He is fortunate if it is one that makes an appeal to the emotions of his auditors on its own account. The greatest orators, however, have been those who were able, in the face of hostile demonstration, to win a hearing and sympathy and enthusiasm. It is true that not all of this ability is to be learned from books; but shall we deny him who wishes to follow in the steps of the great orator or to understand all his effect and power any assistance other than "Know what you have to do, and do it"?

Architecture must be considered, by the architect who practices it, to be either an art of building plus expression, or an art of building with the added requirement that the result should tickle the eye. In the latter case, it seems at first as if it mattered not what is done or how the effect is obtained, so long as it is pleasing, no consequence what the materials are, so long as the surface pleases. Certainly, then, there is no need of copying Gothic or Classic, Byzantine or Greek. These architectures are all different each from the other. Let us do something different also. We have the resources; and variations have their by no means unrecognized advertising

value. There are, however, some limitations even in this case. The conception, whatever it is, must be capable of execution in the materials chosen. In the present state of cryptic mystification in which the architect holds the public, it does not matter that his vagary in brickwork costs more than a decent performance in stone, that an elaborate interior in plaster costs more than it would executed simply in marble, that a galvanized iron fantasy costs more than a plain statement in brick, for the public does not know that its money is being sunk fruitlessly in ignorant tribute to an intelligent past. The public is certainly finding out, however, that architecture is a pleasure to its designer and his fellows almost alone, to themselves almost meaningless; and that it was at various times past the easily comprehended pleasure of all who beheld it.

The day is coming when everyone will know that that single limitation, adaptation to material, is the philosopher's stone for architecture. The project must not only be executable, at whatever cost, but at a cost which remains within the limits of the particular material chosen, not rising to the expense of the next better material. Obviously, if the expense were to be so great as, for instance, to make stone possible instead of brick—and the client knew it—that better material would certainly have been chosen. With this limitation of straightforwardness and economy arise advantages to every designer seeking excellence and beauty, and who desires as well variety and originality. Originality has, for the most part, consisted in finding hitherto unused sources for imitation. The imitator is usually blind to the immense truth that that which is imitated was successful because it followed the law which he breaks in copying it. The copy, defying the material and structural system in which it is carried out, is but a copy. The classic example is good, because it is a simple, straightforward, characteristic use of the material and structural system in which it is executed.

On account of this simple but sufficient lack of adherence to right principle, architectural education, with rare excep-

tions, is in a blind alley. How many architects are there who know or care how terra cotta is made in such detail as to be able really to make a design in terra cotta, that shall not be simply stone, made small. How many know how stone is quarried and cut and carved and polished so as to be able or willing to take advantage of a single one of the new processes so as to intelligently and expressively and beautifully modify the forms of Classical antiquity and the Renaissance, in such a way that the very laborer in the stone yard will know the details to be fit to that material which he knows by heart? Are the students in our schools, again with rare exceptions, in any way to find out these things, or are they always and always taught composition and more composition? What is the sense of training the imagination in composition without ever setting it to work on the materials in which it must realize its dreams? Does the student of music study composition in moonshine, or the student of the piano execution on the violin, or the student of literature composition in architecture? There might be advantages in these exercises. In no art except architecture, however, does the student remain on moonshine to the end of his school studies; in the other arts a profound knowledge of the technique of each is required.

The technique of this art is not draughtsmanship. It is, in the first place, a knowledge of and ability to influence men. Out of the hands of men the architect receives his commissions, and into the hands of men he must entrust them for execution. He must be able to comprehend and sympathize with all the men with whom he comes in contact, to interest them, to persuade them and to command them. He must have business capacity without which few men long interest their fellows. He must be as capable in arranging a plan as possible. He must know materials and how to handle them. He must be able to draw well enough to explain his ideas to the client on one hand and to the contractor on the other. These abilities are placed in the order of their importance. The man

who can handle men and who may be devoid of architectural training, is a satisfactory architect for a portion of the public. It does not seem to matter whether the ability is acquired in college or in politics or in a lodgeroom. This "ghost" architect, who is merely a business man, is a reproach to the profession. The way to keep him out is not to legislate against him but to make the profession inaccessible to him. As long as one set of draughtsmen, as well as another, can carry on its depredations in a happier past, so long will he be possible. A little more care on the part of one imitator than another is not greatly appreciated by the public who are equally perplexed as to the value of either. Only when the technique of the art is witnessed by the plain sense of every one to be a carefully trained ability to handle the materials with which it deals, to produce unmistakably and generally comprehensible effects with them, will its difficulties be recognized to be such as to disbar the unprepared. The composition and expression of the ideal forms of use, and the expression of materials and structural systems constitute the peculiar field of the architect. He must cover the whole ground, but here, although the layman must easily comprehend, neither he nor the "ghost" can follow a properly trained man.

The placing of the study of expressive construction at the beginning of our curriculum is at the bottom and root of all possible future progress in architecture. This step in certain schools marks the return toward that method by which the world's greatest architecture was achieved. In Greece and in Mediaeval France there may very well have been no draughtsmen at all. The student got his construction at first hand, and was taught composition only in the stone studies of his predecessors. A school with this basis is really an idealized office. The student is, of course, always taught by practicing architects. He is not, however, obliged to get out sets of drawings for immediate execution but has time to acquire a knowledge of all that is best in the world, both of men and of their productions; and for the acquisition of



skill in composition. In and through all his study the student must think carefully and deeply because, in the attainment of that element which alone is lacking in our architecture, to make it greater than any that the world has seen, he must cross the gap which separates him from the workman and his tools and processes. He must keep constantly in mind that there is no method of drawing that will take him more than a pitiful part of the distance across that gap, that any trickery that distracts his attention from the task before him is a monstrous waste, and that he can succeed in foreseeing his results only by the sheer force of his trained imagination.

If the results of straightforward thought in architecture are at first less satisfactory from the viewpoint of sensual beauty than imitations of the past,

shall we hesitate? Shall we not feel rather that that beauty which is the outcome of our own labors, the best to which our own aspirations can lift us, mean however it may be, poor and a little shame-faced in the light of what men have done, is for us best? Imagine an embargo placed upon architectural students. Imagine an agreement to shut all the books and closet all the photographs. We should then look about and see; of all our borrowed raiment some has fitted and some has not. We might then go on from fitness to greater fitness. Can not our ingenuity and force, so triumphant in some directions, triumph in others? Aghast, the archaeologist will denounce; the result of such a course can be nothing but ugliness. What? Have we no beauty in our souls? Can we appreciate only, and purloin, not create? Then, in all truth, we have no right to beauty.

*William Luther Mowll.*



HOUSE OF HAUPTMANN VON JENA.

Mühlradlitz.

Rudolph Zahn, Architect.

## A Contemporary German Architect

About the last European country which the majority of American architects would visit for the purpose of learning something valuable from foreign practice would be Germany. All of them who can, travel in Italy, because Italy was the land in which Renaissance architecture originated and in which its most beautiful and instructive monuments remain. Many travel in England, because of the fascination which English domestic architecture inevitably has to offer to the descendants of Englishmen living in another Continent. Either directly or indirectly nine American architects out of every ten are profoundly influenced both by the forms and the methods which lie at the basis of modern French architectural practice. As we all know, this French influence is most powerful of all, partly because the Parisian School is the place to which the majority of American students go, and partly because the French national tradition in architecture and in the fine arts generally possesses indisputable authority. Almost alone among European nations the French have succeeded in establishing a really national body of architectural forms and methods—one that is founded on common sense, practical availability and some continuity of effort and achievement. It is no wonder, consequently, that contemporary French practice has influenced American architecture incomparably more than has the practice of any European country, and one result of this influence has undoubtedly been a tendency to treat almost with contempt the great mass of German art and architecture.

The writer once dropped into the studio of an American sculptor, who was working upon a monument of some importance for a Western city, and whose figure had just been criticised by an associate who stood somewhere near the head of his profession in this country. The sculptor was regarding his work, which was assuredly an example of bold and skillful modeling, with something

like despair, because his critic had described the general effect of his work by the fatal epithet "Teutonic." Just what was meant by this damning description I shall not attempt to define; but the sculptor, who had incurred this awful reproach, and who was himself palpably of German parentage, did not hesitate to assume that if the sentence was true, it was final. An American work of art might be described by many dubious adjectives and have some chance of salvation; but to say that it was "Teutonic" was comparable to the attribution of levity to a book of religious meditation. It somehow contradicted its claim to be considered as a work of art.

This incident is undoubtedly typical of the attitude of the great majority of American artists towards German art; and while there undoubtedly result therefrom a great many exaggerated and merely prejudiced judgments, its origin and comparative justification are not difficult to understand. Americans have had little to learn from German art, either in its historical or technical aspects; and those German enthusiasts who are trying to fill American museums with historical examples of German art are wasting their time. Such relics may be interesting from a sentimental, picturesque or scientific point of view, but they are of no practical value to the modern American artist, and he does not go far wrong in dismissing them from consideration. This is particularly true of German architecture. There is little or nothing in the architectural history of Germany, the conscientious and sympathetic study of which would be of any use to the modern American architect. The German Renaissance is merely a corrupt and awkward imitation of French and Italian originals; and an architect who prefers the so-called freer forms can find more and better food for thought in England. Germany has had no authoritative and consistent architectural tradition, because, until recently,





A CLUB IN BRESLAU.

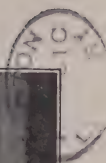
Rudolph Zahn, Architect.

J. ELLIOTT  
LIBRARY



A CLUB IN BRESLAU.

Rudolph Zahn, Architect.





it has had no effective national organization or no consistent and formative national tradition. Its plastic artistic history has been one of individual and temporary exceptions to a general level of mediocre and distracted effect. There have, of course, been great individuals and fine moments in German art, as there have been in the art of most other European peoples; but the great individuals

It is no wonder, consequently, that artists should tend to overlook and disparage the art of a people who had for some hundreds of years been doing with indifferent success a class of work which they themselves were trying to do better. Nevertheless, it is time for them to understand that conditions have changed during the past generation, and that the time is coming when they may have more



A CLUB IN BRESLAU.

Rudolph Zahn, Architect.

have been painters and handicraftsmen, rather than architects or sculptors, and even in painting the great individuals have occupied a more than usually lonely position. In architecture the Germans have, on the whole, been imitative, without being successful in their imitations, and they have had, until recently, no opportunity of erecting on the foundation of their borrowed forms a really national architectural tradition.

to learn from Germany than they have had in the past. For about forty years the German people has possessed a national organization, based upon her political traditions and suitable to her living needs; and during these years the Germans have been accomplishing certain results, which are better worth serious attention on the part of Americans than are the similar achievements of any other European people.



BANQUET HALL.



A CLUB IN BRESLAU.

Rudolph Zahn, Architect.



The truth of this statement, in its application to certain political and economic problems, is indisputable. The fact that our own country is an English-speaking

those of France and England. In France and England the general government possesses supreme and undivided authority. In Germany and the United



A CLUB IN BRESLAU.  
(Detail of Banquet Hall.)

Rudolph Zahn, Architect.

democracy has tended to blind Americans to the fact that German political needs and methods are in certain respects more similar to our own than are

States a Federal constitutional system prevails, which leaves the local governments in possession of certain essential attributes of sovereignty. In France

and England the Executive is responsible to the Legislature, and the Legislature is practically omnipotent. Germany and the United States, on the other hand, possess independent Executives, whose powers and functions, different as they are, give a certain similarity to the machinery whereby important political and economic reforms are accomplished. Precisely because Germany possesses an independent and powerful Executive, with the authority to initiate important legislative and administrative measures, Germany has during the past forty years accomplished more in the way of constructive, economic and social legislation than has any other European country. It has made far greater strides towards the organization of an efficient national industrial system than has the United States; and in these matters the American people have an enormous deal to learn from Germany, as they will be made to understand during the next twenty-five years.

In the arts we have less to learn from Germany than we have in practical affairs; but what we have to learn is of great importance. The interest of contemporary German architecture for the contemporary American architect consists partly in the circumstance that the problem confronting the architects of the two countries is somewhat similar. Germany, like the United States, is a young nation, without any specific or consistent national architectural tradition. For several centuries German architecture has been imitative, and the large amount of learning which has characterized this imitation has not prevented it from being indiscriminate, distracting and wholly unauthoritative. There is no more reason why this habit of imitation should bind contemporary German architects than that the American architect should be bound by the Classic or Gothic revivals. What, then, is the German architect to do at the present time in order to begin the great work of establishing a group of authoritative national architectural forms? Most assuredly he cannot nationalize German architecture by continuing in the old path of learned but indiscriminate and somewhat awkward imitation. Neither

can he give his work any authority, in case he breaks entirely away from the past and attempts to establish a wholly new and unconventional group of architectural forms. Obviously his answer to these perplexing questions, which involves the attempt to reconcile apparently irreconcilable demands, must lie along lines similar to those which determine the behavior of an American architect in a similar situation. He must manage gradually to adjust the architectural forms, familiar to the German people, to contemporary practical needs; and he must reach his architectural effects chiefly by a thorough simplification of those forms, guided in its achievement by a more refined and disciplined sense of beauty.

The problem confronting the architects of the two countries is consequently similar, but in working out the answer to the problem the German architect is at liberty to go ahead more rapidly than is the American architect. The situation in Germany differs from the situation in this country chiefly in one important respect. The Germans are young as a nation but they are old as a people. Their architecture has lacked in vitality since the early middle ages. Particularly during the past three hundred years they have been imitating Renaissance forms with more or less learning but with little of the necessary feeling for the peculiar value of the style. France has added something essential and real to the development of the Renaissance forms. Germany has added nothing. The very fact of this comparative failure makes it desirable and even imperative that German architects should be both original and daring in seeking the proper direction for a more natural architectural development. They may not break away entirely from the past, because that would mean revolutionary chaos, but just because German architecture has exhausted the possible value of imitative methods they must be drastic in their simplification of the older forms and (so far as possible) uncompromising in their applications of national ideals to specific architectural problems; and finally they may adopt a line of this kind with some chance of success, because in almost

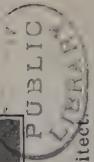




SKATING CLUB OF BONN.

Bonn on the Rhine.

Rudolph Zahn, Architect.





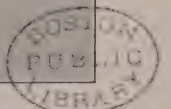
DINING ROOM.



SKATING CLUB OF BONN.

Bonn on the Rhine.

Rudolph Zahn, Architect.





every department of contemporary work the Germans have shown themselves capable of constructive intellectual initiative and of expert leadership directed toward the accomplishment of a desirable collective purpose.

American architecture, on the other hand, has not by any means exhausted the benefit which it may derive from sympathetic imitation. Just at present there is less need of architectural originality in this country, partly because the popular architectural taste needs to be familiarized with a sound tradition of style, and partly because American architectural imitation is by way of reaching permanently valuable results. Our best architects are designing really beautiful buildings along strictly traditional lines; and inasmuch as American thought in practically every department of practical and technical work is lacking in justifiable originality and self-confidence, the safer path is for the present the better path. There seems to be a good prospect that the American architect will justify his caution and his conservatism by adding a new refinement to the development of the Renaissance architectural tradition; and architectural criticism should strengthen the bands of the conservative practitioner, just in so far as conservatism results in increased propriety and distinction of style. But there can be no doubt that in the course of time the American architect, also, will exhaust the benefits of a merely conservative architectural practice and that American architectural progress will require a more drastic simplification of the traditional forms and a more rational treatment of specific architectural problems. The confident anticipation that such a condition will eventually arise in this country lends a very practical interest from the point of view of the American architect to the experiments of the more progressive contemporary German architects. If these experiments are successful, they will command the attention of the American architect, who is seeking emancipation along similar lines, and even when their success is very questionable, they should not receive the same condemnation that might be visited on an American archi-

tect, who took similarly unsuccessful liberties with traditional forms.

It is with the foregoing general considerations in mind that an American critic should approach the consideration of the class of German work, illustrated herewith. This particular German architect, Mr. Rudolph Zahn, belongs distinctly to the more progressive school. He has broken away from the traditional forms more completely than have the better of his contemporaries and more completely than was really necessary. But he has broken away more in his details than he has in use of masses and his methods of composition; and the general effect of his buildings, while startling, is by no means shocking and disconcerting. His buildings awaken remotely certain familiar and pleasant associations—associations which to the writer are connected with the picturesque late mediaeval architecture of certain German cities; and in all probability these are the worthiest reminiscences of earlier German buildings, which a contemporary German architect can seek to arouse. The association is remote, because every one of Mr. Zahn's buildings illustrated herewith is detached, and because the architect has permitted himself only a discreet use of merely picturesque effects. Yet picturesque these buildings are with a picturesqueness obtained chiefly by the treatment of gabled roofs, and this picturesqueness is traditional rather than modern in the effect it produces. But picturesque as they tend to be, these buildings are none the less well composed in their masses and restful in their appearance. They do not exhibit the slightest strain after merely striking novel and bizarre effects. In spite of their obvious and intentional originality they have not departed from a fundamentally sound stylistic tradition.

On the other hand, the system of ornamentation adopted by Mr. Zahn is not by any means so sound or so successful. The more progressive architects of all countries have in the opinion of the writer failed far more completely in their attempts to substitute new decorative forms than they have in their attempts to give a novel aspect to the general effect of their



HOUSE OF HAUPTMANN VON JENA.

Mühlradlitz,

Rudolph Zahn, Architect.



buildings. No substitute has as yet been worked out for the classic methods of ornamentation that has anything like the propriety and beauty of the traditional forms; and the consequence is that architectural innovators usually commit either one of two mistakes. They either pile on crude and fantastic ornaments, which tend to discredit the whole progressive movement, or else they avoid

in the detail he has used permitted himself the liberty of remotely suggesting some of the traditional forms. Nevertheless his ornament has to the eye of the writer added little or nothing to the distinction of his buildings. Doubtless its absence would be missed; but its presence is either annoying or at best merely to be tolerated; and this criticism increases in force whenever the forms become



HAUPTMANN VON JENA'S HOUSE—ENTRANCE.

Rudolph Zahn, Architect.

ornamentation to an extent which makes their buildings excessively severe and ascetic in appearance. Mr. Zahn is too intelligent a designer to fall headlong into either of these extremes. His ornament has been sparingly applied, but his discretion has not tempted him to make his buildings a desert in their lack of decorative detail. The ornament which he has used has been applied in about the right quantities and in about the right places. He has even on occasions

accessory to a strictly architectural effect. The ornamental iron-work on the house of Hauptmann von Jena is ingenious, but is entirely lacking in distinction, and the same comment applies to the detail of the interiors. The system of interior decoration has been manifestly designed by an architect, who knew where and what sort of ornament was needed; but the impression it makes on the writer is distinctly disagreeable.

A. C. David.

# RECENT EUROPEAN ARCHITECTURE



A. MARSHALL MACKENZIE & SON

“Hursley Park,” Estate of Sir George Cooper,<sup>5</sup> Bart.  
Hampshire, England

LOSSOW & KÜHNE

Villa in Dresden  
Castle near Dresden (from architects' model)  
Villa Moras  
Cottage near Dresden

ALBERT GESSNER

Sanatorium of Dr. Warda, Blankenburg, Thuringia

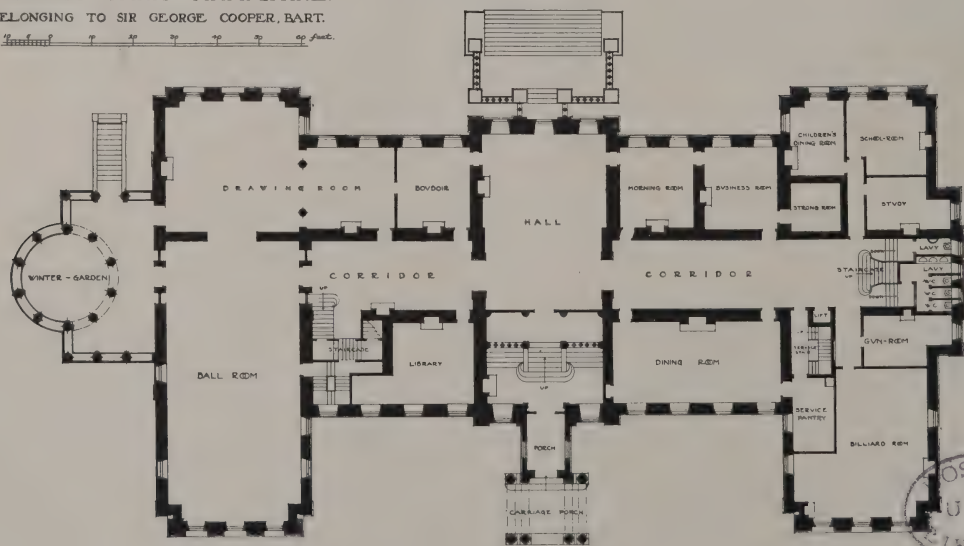




"HURSLEY PARK."

HURSLEY PARK - HAMPSHIRE.

BELONGING TO SIR GEORGE COOPER, BART.



"HURSLEY PARK," ESTATE OF SIR GEORGE COOPER, BART.

Hampshire, England.

A. Marshall Mackenzie &amp; Son, Architects.

A. MARSHALL MACKENZIE & SON,  
ARCHITECTS,  
17, PATTERSON PLACE, LONDON, S.W.





"HURSLEY PARK"—CORNER OF DRAWING ROOM.

A. Marshall Mackenzie & Son, Architects.





"HURSLEY PARK," BOUDOIR.

A. Marshall Mackenzie & Son, Architects.





"HURSLEY PARK," THE HALL.

A. Marshall Mackenzie & Son, Architects.





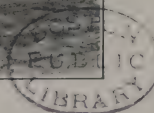
VILLA IN DRESDEN, 1908.

Lossow &amp; Kühne, Architects.



VILLA IN DRESDEN, 1908.

Lossow &amp; Kühne, Architects.





A CASTLE NEAR DRESDEN.



A CASTLE NEAR DRESDEN.  
(From the architects' model.)

Lossow & Kühne, Architects.







A CASTLE NEAR DRESDEN.

Lossow &amp; Kühne, Architects.



A CASTLE NEAR DRESDEN.

Lossow &amp; Kühne, Architects.

(From the architects' model.)



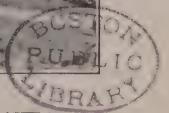
SANATORIUM OF DR. WARD.



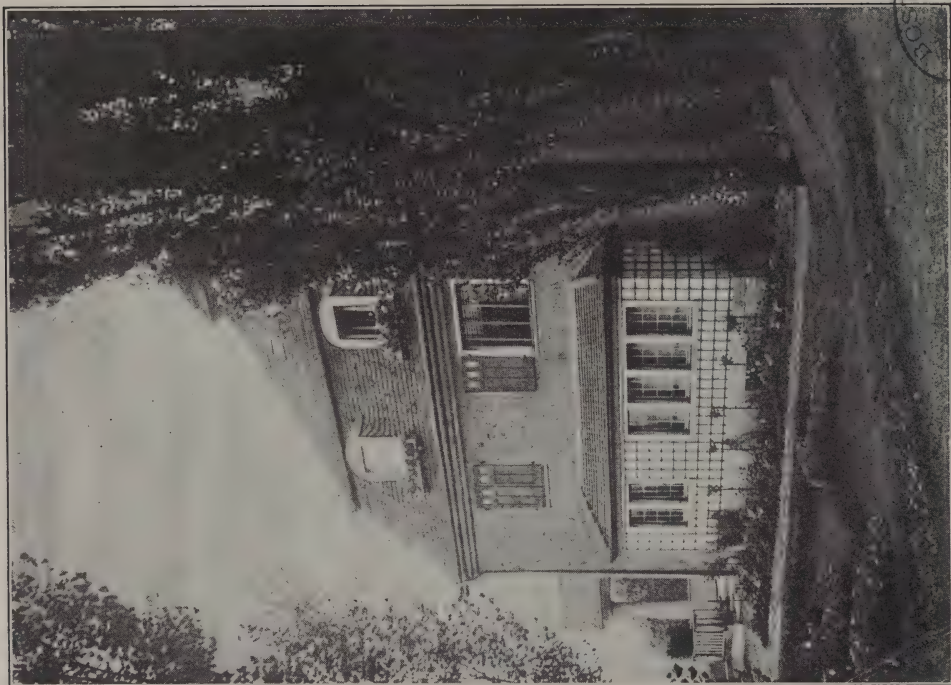
SANATORIUM OF DR. WARD.

Blankenburg, Thuringia.

Albert Gessner, Architect.







COTTAGE NEAR DRESDEN.

Lossow &amp; Kühne, Architects.



VILLA MORAS, 1907.

Lossow &amp; Kühne, Architects.

BOSTON  
PUBLIC  
LIBRARY

# The Evolution of Architectural Ornament

## II.

### Ornament with a Foliage Basis—The Acanthus

So far as the Classic school of foliage ornament is concerned, the only type which is purely conventional is that which has already been dealt with—the anthemion and its variations—with the exception of a few minor enrichments which must be reserved for later treatment. There is, however, a large amount of *naturalesque* foliage, based, in Grecian times entirely and in Roman and Byzantine times very largely, upon the acanthus leaf. This, in its natural form, is represented in Fig. 31. It is a large leaf on a stem somewhat resembling that of the rhubarb, but, as will be noticed, it is divided into a series of lobes by deep indentations, and each lobe is itself serrated along the edge with sharp saw-tooth serrations of a curiously curved outline. It is eminently a leaf which is open to conventionalization.

At what time it first came to be used for the purposes of architectural ornament is entirely unknown. It appears in its perfect form on the earliest example which remains, with nothing to lead up to it whatever, this example being the internal (Corinthian) order of the Tholos at Epidauros. It is next found in the frieze on the cella of the Erechtheion, which has already been illustrated in Fig. 13,\* though it occurs there only as the small covering leaf to the junctions between the scroll and the flowers. The Corinthian capital, however, is very little else than a bunch of acanthus leaves, attached as ornament to a bell or basket, having tendrils for volutes; but often, in combination with the acanthus, there is a row of plain pointed leaves, such as those of ordinary grass. Such are to be found on the capitals of the Choragic Monument of Lysicrates at Athens, illustrated in Fig. 32, from a cast in the British Museum, and unfortunately in a very dilapidated condition.

As when this photograph was taken the capital of the Tower of the Winds possessed by the British Museum was exhibited close by, a photograph of that also appears on the same illustration. It is a much later example, for the Choragic Monument was built in 335 B. C., and the Tower of the Winds not until about 150 B. C., and it is devoid of volutes, but it shows both the plain leaf and the acanthus leaf, the plain leaf in this case being above the acanthus.

A much more distinct illustration of this is given in Fig. 33, in which some of the principal Grecian characteristics can be recognized. The outline is sharply cut, and there is no great amount of surface curvature, while the lobes have the central vein of each well-defined and carried right down to the base, which is widened out and not contracted on to a stalk; the point of the whole leaf is made to curl over. The plain leaves are in strong contrast to the acanthus, but they, too, are significant of the Greek feeling in their simple and decisive lines, well defined and cleanly cut.

While the name of acanthus is given to all the rich leaf foliage of this type, yet there are some writers who speak of the parsley also, and there are certainly examples, particularly in Grecian work, which indicate rather the following of the parsley with its clusters, than the acanthus with its large serrated leaves. An example of this, well known to all visitors to the British Museum, is the small fragment from the Temple of Diana at Ephesus, illustrated in Fig. 34, representing the enrichment of the cymatium moulding which surmounted the cornice. This photograph is given to indicate its general effect. There is a large tendril scroll continued along the cymatium and standing out from its surface, which is that of an exceedingly refined *cyma recta*. It is purely applied ornament in considerable relief, throw-

\*March number, 1910.





Fig. 31. Natural Acanthus Leaf.

ing a strong shadow in the top-lighted Museum, just as it would do under the bright sun of Greece. The photograph also indicates how a gutter is cut out of stone at the back of the cymatium. The parsley character of the ornament is perhaps better seen in the detail pencil sketch, Fig. 35. It is so sharply cut that it looks more like wax modeling than marble carving; it is just the sort of thing that could be done with the fingers in a plastic material, and it is possible that the designer worked in that way rather than by making a sketch on a flat surface. The date of this example is about 350 B. C.

The British Museum contains another example of the same type of work, also believed to have come from Ephesus. It is in the form of a somewhat



Fig. 32. Capitals from the Choragic Monument of Lysicrates (Cast) and the Tower of the Winds (Original) at Athens.  
(British Museum.)

flatly cut pilaster cap, the date of which is unknown; it is illustrated in Fig. 36. In this case the leaves do not so clearly stand out from the background as in the examples hitherto mentioned, but neither is the workmanship of Byzantine character. It is still real carving, and the leaf, which occurs beneath a tendril volute, shows both the well-separated and indented lobes of the acanthus and the crisply curled-over clusters of the parsley, these latter appearing as if they spring from the base of the deeper in-

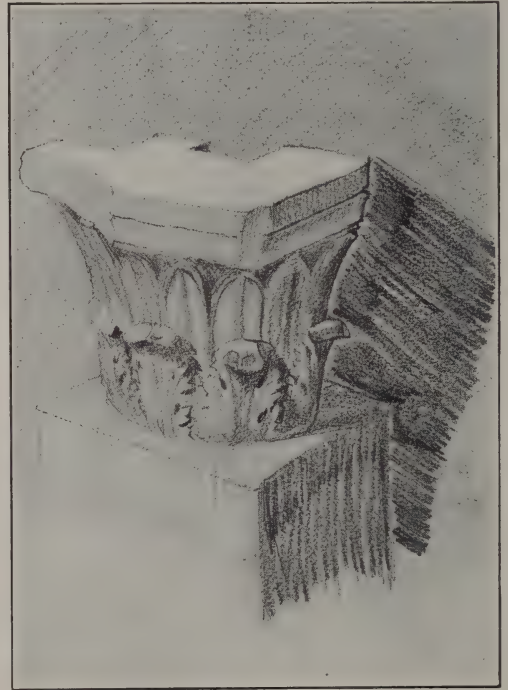


Fig. 33. Capital from the Tower of the Winds, Athens.  
(British Museum.)

dentations. It thus almost appears as if this clustering variation of the acanthus foliage belonged to Syria rather than to Greece, and one would, consequently, expect to find that the true acanthus was confined more to Greece. This, however, is not borne out, for there is one Corinthian capital in the British Museum, the largest of the Grecian period which is known to exist, which has been brought from the site of the Temple of Diana at Ephesus, and shows the true acanthus



Fig. 34. Portion of the Cymatium (Cyma recta) Surmounting the Cornice of the Temple of Diana at Ephesus.  
(British Museum.)

leaves in all their simplicity. This is illustrated in Fig. 37. It is elliptical in plan and considerably better carved on the face, shown on the illustration than it is upon the back, while there are clear indications of its having suffered both from fire and water. Nothing more is known of it; nobody has been able to give it a place in the Temple of Diana; nobody has been able to ascribe a date to it; but it does not appear to belong to the best period, for the carving is comparatively crude and shows indications of degraded later work, as, for instance, where the points of the two leaves are

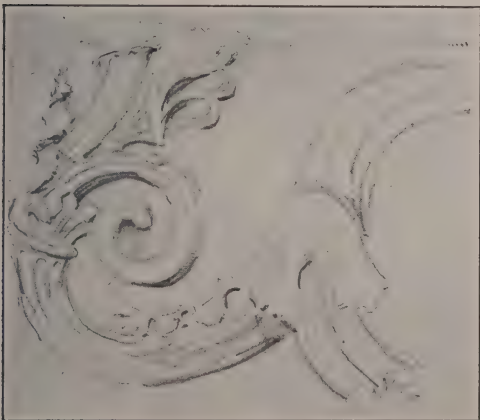


Fig. 35. Acanthus Scroll from Cornice Cymatium of the Temple of Diana at Ephesus.  
(British Museum.)

allowed to join in order to secure strength, and in the over-emphasizing of the hollows. If trouble be taken to compare the forms of the serrations with those upon the natural leaf illustrated in Fig. 31, it will be seen that the resemblance is considerable. It is just possible that this capital was never completed. The leaves of the lowest tier, for instance, have a bare space between them which ought to be filled with the detail of the tier behind, but is not.



Fig. 36. Acanthus Leaf on Pilaster Cap from Ephesus.  
(British Museum.)

The supposition that this is of a late date is borne out by the great similarity between these leaves and those of certain fragments, such as that illustrated in Fig. 38, which are distinctly of the Byzantine type, having an almost flat surface and a background of unequal depth, instead of an even background and applied carving of varying depth. It is a pity that in this case, again, the date is uncertain. All that can be said is that the type of the acanthus leaf had become well established by the time





FIG. 37. CORINTHIAN CAPITAL BROUGHT FROM THE SITE OF THE TEMPLE OF DIANA AT EPHESUS—NOW IN THE BRITISH MUSEUM.

that this was carved, and was now capable of adaptation to any style which might arise.

The Romans used the acanthus much, changing its character, as they did all the other Grecian forms of ornamentation, and varying its outline to a consid-

erable extent. As a rule, they were not such good workmen as the Greeks, or, at any rate, they aimed at producing a greater amount of effect with less precision of outline. It is also more possible to recognize in Roman work that each craftsman had a technique of his own. All that can be done, therefore, is to give a few typical examples to show what alterations were made, and to indicate that these were capable of infinite expansion—and received it to a large extent, though generally in the same spirit. Fig. 39 will indicate fairly well what this was. Two types of leaves are shown which occur round the base of a Roman column. Plain leaves and true acanthus leaves are alternately introduced, but even the plain leaves have the edges crinkled and a surface wave imparted to them. This could have been done only at the expenditure of a considerable amount of labor, and it is perhaps doubtful whether the result has justified it, but the effect is that of a growing leaf and not of a conventionalized ornament. It is the same with the acanthus, the outline of which, while still serrated, is

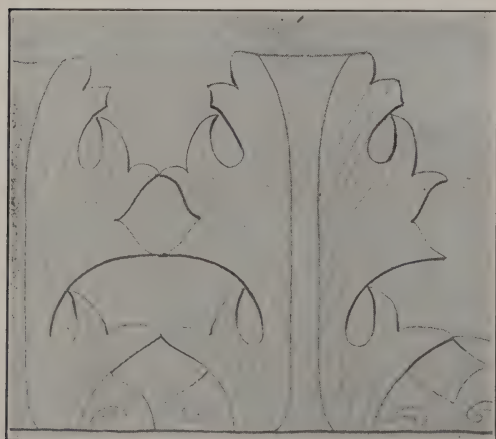


Fig. 38. Fragment of a Pilaster Capital Probably from Athens.  
(British Museum.)

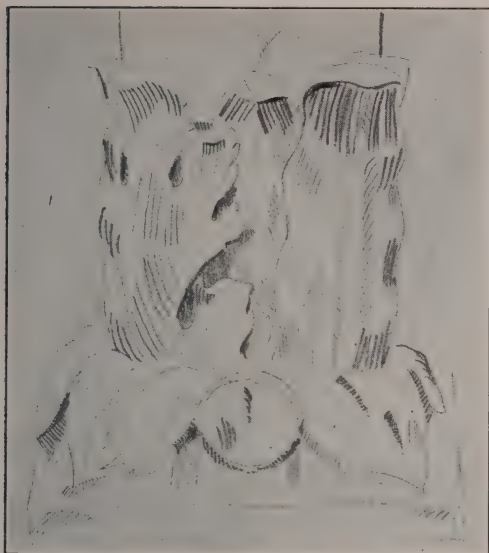


Fig. 39. Base of a Roman Column.  
(Victoria and Albert Museum.)

treated in a purely natural way and not in regularly arranged curves. The bottom lobe is particularly noticeable, and may well be compared with the lobes on Fig. 31. In the illustration, an attempt has been made to indicate the surface curves, but it will be noticed that there are no veins. The same thing is illustrated even more clearly in Fig. 40, which shows one of the acanthus leaves

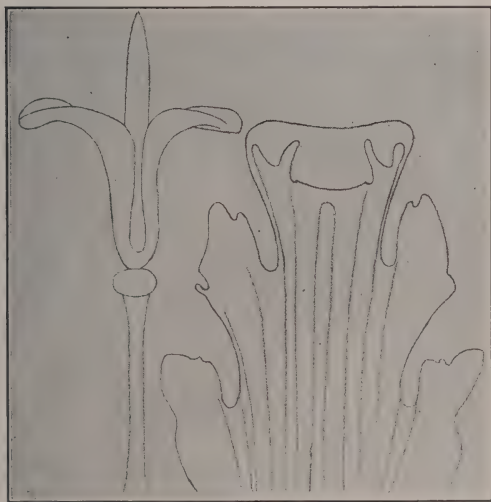


Fig. 40. Fragment of Acanthus from a Pilaster Capital.

of the pilaster capital from the internal Order of the Pantheon at Rome. The outlines are far from being conventionalized or decorative, but the result, even when viewed from a comparatively short distance, is successful. The leaves have a natural appearance, and yet are not too entirely natural, for the detail is not fully worked out, and they are scarcely suited to the polished white marble—the material in which they are executed. It will be noticed that there is a great difference between this system of carving foliage and that of the Greeks, which was always more or less conventionalized and sharp in outline.

The use of the acanthus was not now confined to a few positions only; it is found in Roman work wherever a leaf ornamentation was desired. Fig. 41 shows it as applied to a candelabrum, of which there is a cast in the Victoria and Albert Museum. Some of the upper leaves are designed with the crinkled edge even more prominently displayed than in Fig. 39, but the acanthus is less natural; the leaves are extended considerably, even to an extent which might render them fragile at the points, and the edges are both serrated and crinkled. A little further examination of this candelabrum will show that other foliage is introduced in a perfectly natural manner, but only to a minor extent.



Fig. 41. Roman Candelabrum.  
(Victoria and Albert Museum.)

Much the same spirit permeates the acanthus foliage, which is used to a lavish extent on the Roman capital, now in the Louvre at Paris, illustrated in Fig. 42. The Ionic volute is crowded with it, and so is the drum of the return, while another long acanthus leaf is used to fill up the somewhat awkward gap above the row of egg and dart enrichments on





FIG. 42. ROMAN CAPITAL FROM THE LOUVRE, PARIS.

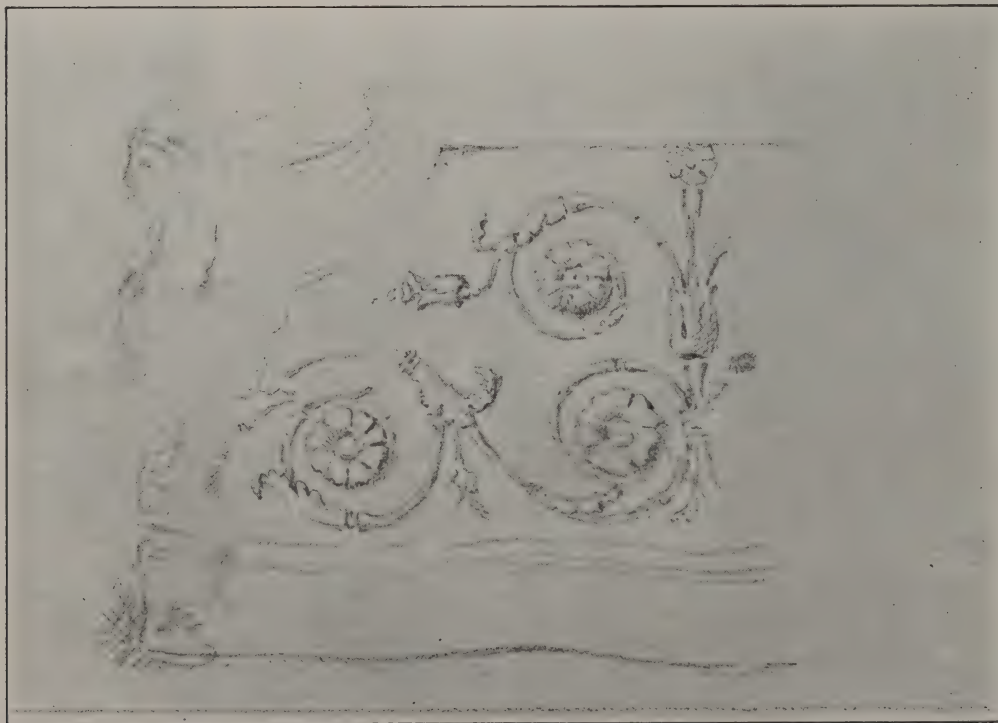


FIG. 43. SCROLL ON BASE OF A ROMAN CANDELABRUM.  
(British Museum.)



Fig. 44. Jamb of  
East Door,  
Mainz Cathedral.

the circularly planned echinus. The extreme shallowness of the capital may also be observed, but it can hardly be considered a typical example, but rather as an exceptional one of the later elaborated period. Work such as this has been more frequently copied of recent years in softer materials than marble, in which a large amount of decoration is more justifiable. The acanthus has here been over-employed, to the destruction of simplicity of outline.

That the acanthus is capable of quite free treatment and of uses in many ways

is indicated by Fig. 43, which shows a lightly designed scroll which appears at the base of a candelabrum of Roman

date, now in the British Museum. In fact, the essence of the design is a scroll formed by a twisting tendril or stalk, which terminates in flowers and buds, the acanthus leaf being used only to conventionally suggest some ornamental leaf growing out of a stalk, where needed for decorative purposes and for covering the junctions of the tendrils. Any other leaf could have been similarly employed, but if the flowers had represented those of some definitely recognizable plant the leaves also should have been those of the same plant—of course, in a conventional form.

It will thus be seen that the Romans fully understood that the acanthus was a conventional leaf which could be employed in many different ways and places. They used it in wreaths in high relief, as well as for the enrichment of capitals and in low relief in scrolls; in

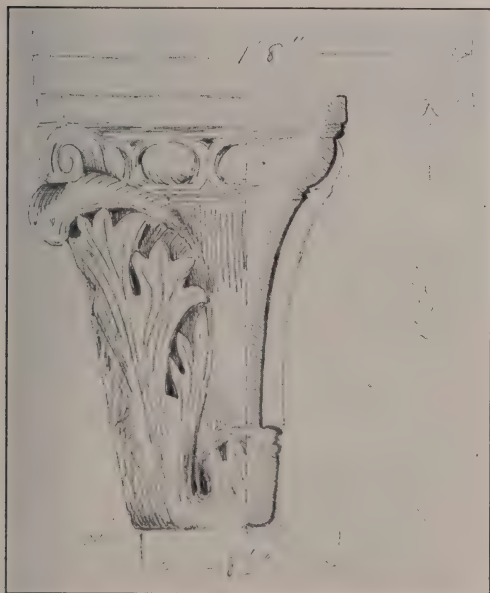


Fig. 45. Half of Romanesque Cap (XI Century), now in the Courtyard of Hotel Croix d'Or, Toissons.

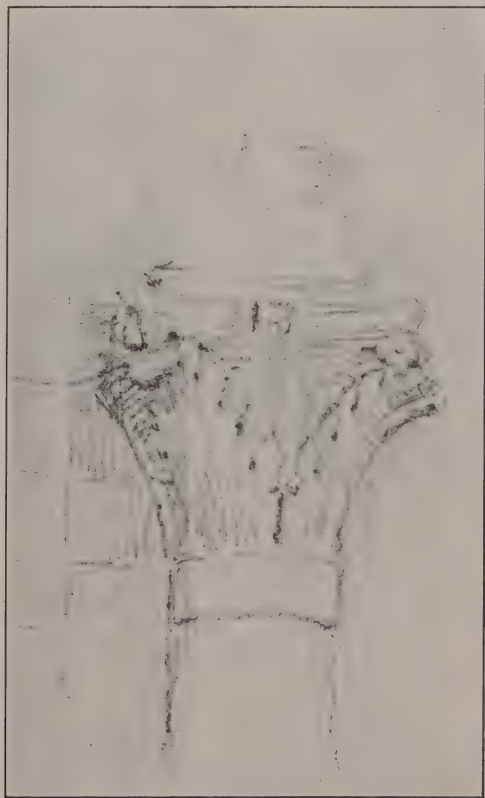


Fig. 46. Capital in the Baptistry, St. Jean, Poitiers.



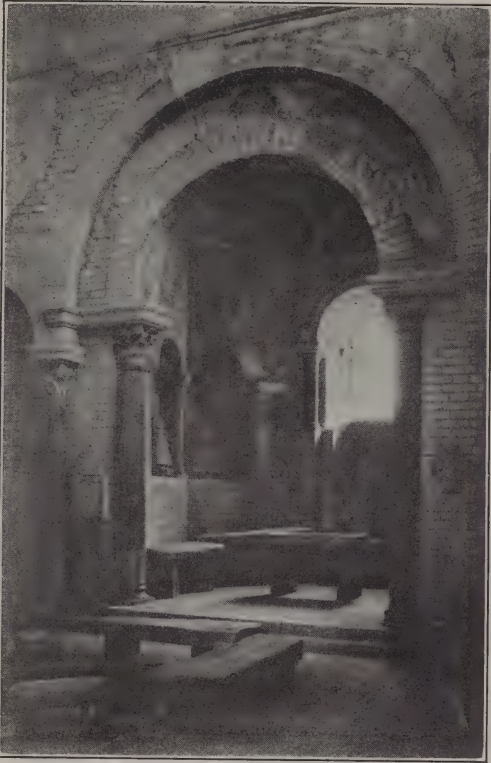


Fig. 47. Apse of the Baptistry, St. Jean, Poitiers.



Fig. 48. Wall Arcade, North Transept, Laon Cathedral.

fact, they seem to have fallen back upon it as their standard method of ornamentation wherever a rich carved effect was desired. Wherever the Romans went they took with them the traditional employment of the acanthus, and although there are few, if any, remains of its use upon Roman buildings throughout the great districts of the Rhine, of France and of England, where the Roman power was predominant, yet the acanthus appears again and again upon the subsequent Romanesque work of those vast districts, which was obviously based upon remains such as the Romans must have left behind. Strangely enough, its use is again almost entirely confined to capitals, as it had been in the time of the Greeks, and these capitals partake of



Fig. 49. Italian Capital, Circa 1500 A. D. (Victoria and Albert Museum.)

a Corinthian character. This is very clearly indicated, for example, in the east door of Mainz Cathedral on the Rhine, shown in Fig. 44, the capitals of which might almost be of Roman execution, with their well-projecting leaves of pronounced acanthus in two tiers, and even with the little primrose-like flower introduced in one case similarly to those which are shown on Fig. 43. The cutting of the edges, however, is not of the purely natural character to which we have previously referred, but is almost always of a somewhat spiky type, such as is indicated in Fig. 45, which, although it has not come from the Rhine, but from Soissons, in the north of France, is



Fig. 50. Capital from an Italian Chimney-Piece.

(Victoria and Albert Museum.)

equally indebted to the Roman occupation of the district for its origin. A close examination of this illustration will show that it contains really two types of edge treatment, the two upper lobes being somewhat of the sharp character which is generally considered represen-

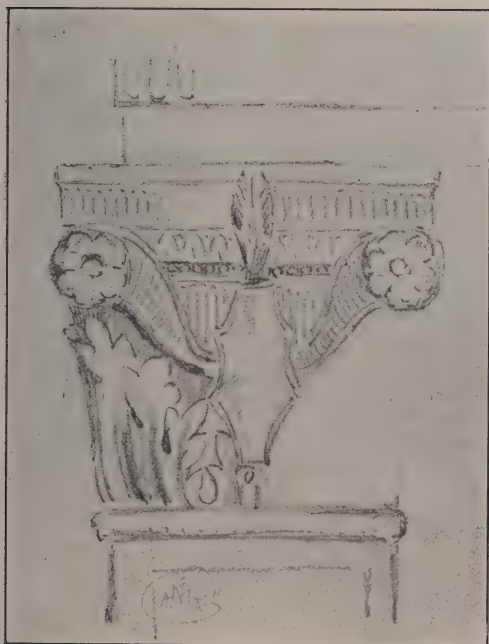


Fig. 51. Cap from Door of a Private Chapel of Church in Genoa, Erected by Lazzaro Doria, A. D. 1472.

tative of the Grecian or Byzantine school, while the lower lobe has the rounded serrations of the Roman: more like the form shown in Fig. 46, which belongs to a district, that of Poitou, several hundred miles distant from the Rhine, but equally under Roman influence. The leaf in this case can only by



Fig. 53. Architrave Enrichment to Main Door, Church of Sta. Maria dei Miracoli, Venice.

courtesy be called an acanthus leaf at all, as it is one broad leaf, with deep serrations, and not a leaf of several lobes. The Corinthian volutes are replaced by four-petaled flowers, which rest upon the tips of the leaves. This original and very beautiful little capital was probably



executed about 550 A. D., and belongs to the small and comparatively little-known Baptistery of St. Jean at Poitiers, a general view of the apse of which is given in Fig. 47. The actual capital il-

lustrated in Fig. 46 is one of the small ones of the wall arcade of the apse; the larger ones, which carry the impost of the apse archway, are of the more ordinary Corinthian type. This building at Poitiers is several hundred years older

than those at Soissons and Mainz, already referred to, so that the Poitiers capital cannot be considered to be a development, but rather an eccentricity—a mere exceptional variant of a persistent

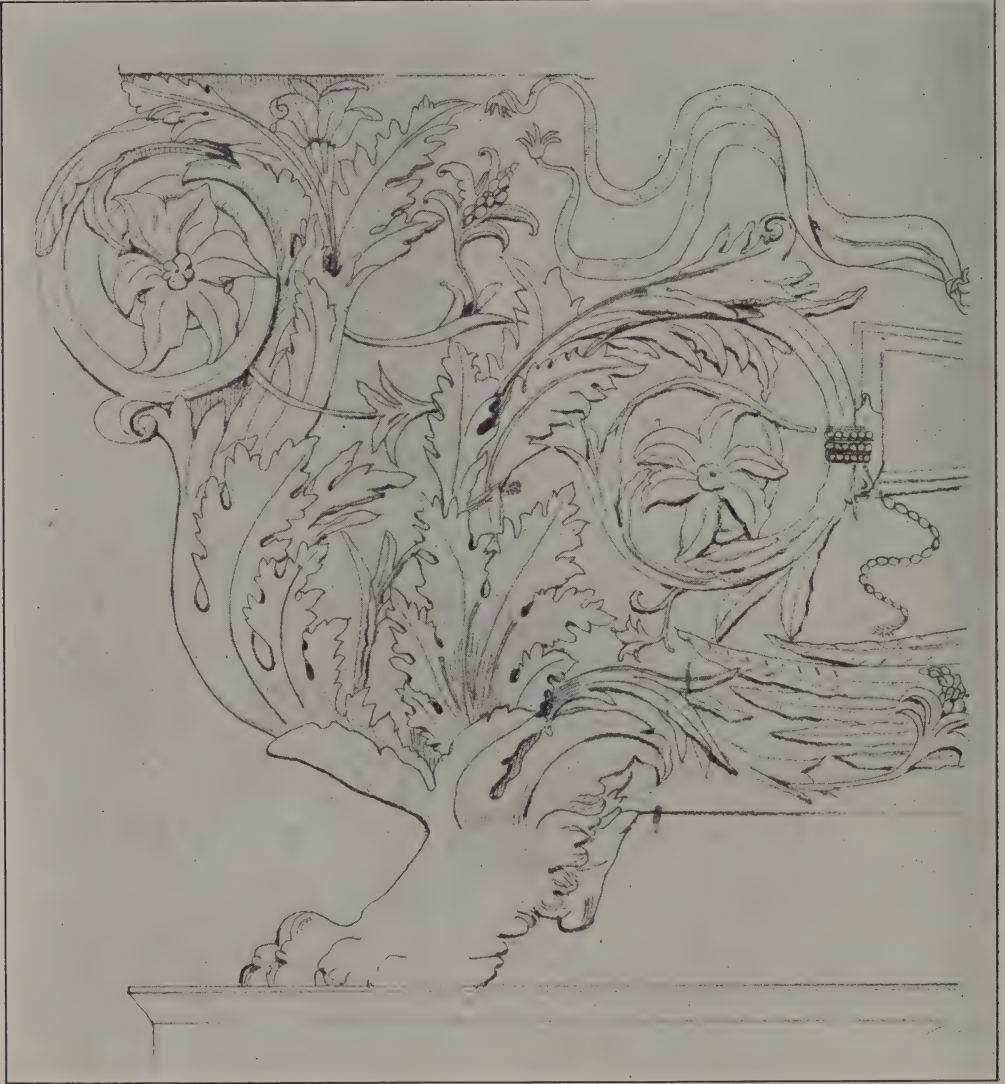


FIG. 52. PORTION OF MONUMENT TO CARDINAL MARSUPPINI, IN THE CHURCH OF STA. CROCE, FLORENCE.

lustrated in Fig. 46 is one of the small ones of the wall arcade of the apse; the larger ones, which carry the impost of the apse archway, are of the more ordinary Corinthian type. This building at Poitiers is several hundred years older

type, of which another illustration is given in Fig. 48, from the wall arcade of the north transept of Laon Cathedral in north France, not far from Soissons, where it appears in conjunction with the pointed arch and belongs to the latter

part of the twelfth or the early part of the thirteenth century." The acanthus leaves are here of the ordinary Roman character, but the great interest of the illustration lies in the fact that two adjacent capitals are shown, one of them being acanthus carved, while the other consists of similarly arranged broad leaves curling over at the points; in other words, the well-known crochet cap of the early Gothic period in northern France. Glancing from one to the other, it is quite obvious that they are of the same origin; the broad crochet leaves which appear to be those of the hart's-tongue fern are little else than acanthus leaves without serrations, while the closely knotted "crochet" or hook at the point is only a tightened form of the usual termination of the acanthus leaf in Roman Corinthian work.

Except in a few French examples of an early date, obviously in pure succession to the work of the Romanesque period, there is no attempt at representing the acanthus while the Gothic styles dominated European architecture, but, with the advent of the Renaissance, it was introduced again. It is to be found in Italy, France, Germany and England, always Roman in its character until quite recent times and during the short period when, in England in particular, the inspiration of the modern work was taken direct from Greece. Thus the Italian capital, illustrated in Fig. 49, is highly suggestive of the purely naturalesque treatment of the capital from the Pantheon, illustrated in Fig. 40. Though the outline is slightly conventionalized, it is clearly nothing less than a replica of the Roman work of which there still remains a great deal in Italy; yet this was not the true spirit of the Renaissance which, above everything, introduced originality of treatment while adopting the old forms. So we find it in Fig. 50, which is quite typical of the larger work of the period, a capital from an Italian chimney-piece, now in the Victoria and Albert Museum. A dolphin's head has here replaced the volute, but the acanthus leaves of the normal Corinthian capital are still in evidence and of purely Roman outline. It will be noticed par-

ticularly that the lobes are very distinct, and that the veining is arranged with regard to the separate lobes rather than the whole leaf. This is sometimes found

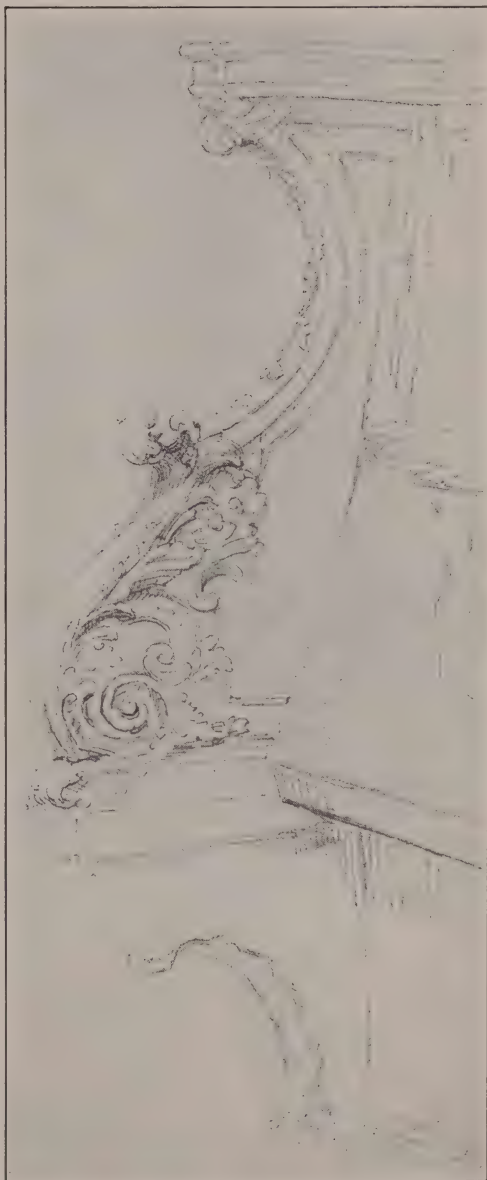


Fig. 55. Choir Stall in St. Omer Cathedral.

in Roman work, but is a much more frequent characteristic of the Italian Renaissance. The relief is high, the carving being true carving, as in the Ro-



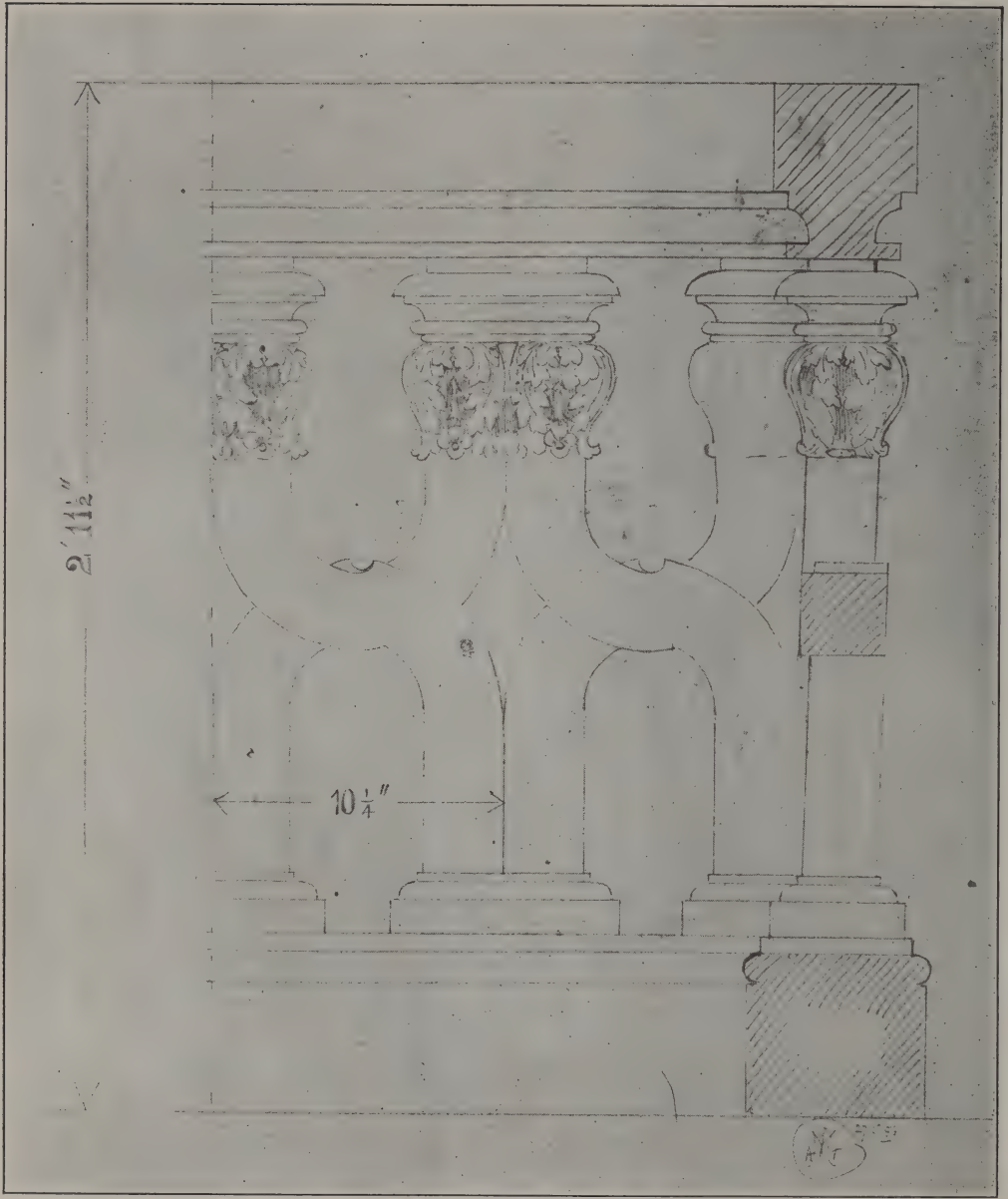


FIG. 54. BALUSTRADE IN THE GARDEN OF THE CLUNY MUSEUM, PARIS.

man period, but several liberties are taken, as, for instance, in giving fins of acanthus to the dolphin. The treatment of another Italian capital, Fig. 51, taken from a door of a private chapel in one of the Genoese churches, again illustrates the point that the Renaissance workers adopted the old Classic tradition

of the acanthus, but used it in a new spirit, inventing many different forms of capital in which it could be employed, yet all variations of the Corinthian or the Composite. In this case the curve of the serrations along the leaf are similar to those which are found in the little Romano-Gallic Baptistery at Poitiers,

illustrated in Fig. 46, only here each triplet of serrations forms a lobe of the leaf.

A quite distinct and much more free treatment of the acanthus is that upon the well-known Marsuppini tomb at Florence, a portion of which is illustrated in Fig. 52. It is here treated as a natural wild plant, in low relief and ragged in outline, arranged with little formality, but with a great deal of freedom and swing, and rising from the foot of the monument as if it there grew direct from the ground and terminated in scrolls which carry flowers. Connecting tendrils are carried across and across from one main stem to the other. This has been called a good example of an indifferent period, and perhaps it is a false art to work in so entirely natural a manner, but the execution is marvellously fine, and the effect, at any rate, is pleasing, even if it be a trifle overcrowded. In this case the serrations are more or less spiky in their nature.

A suggestion that the acanthus might be used in the form of a freely designed scroll is found in the cornice enrichment of some Greek temples (see Fig. 35), and again in the scroll at the base of the Roman candelabrum illustrated in Fig. 43. This suggestion was adopted largely during the Renaissance period, both in Italy and elsewhere. There is an exceedingly beautiful example, though it is by no means an isolated one, in the scroll which enriches the architrave surrounding the principal door to the well-known Miracoli Church at Venice. The base of this is illustrated in Fig. 53, showing how the scroll rises from a cluster of acanthus leaves, and is itself formed of a winding tendril from which leaves and flowers spring. The same sort of thing was adopted in many other instances, and in all countries where the Renaissance style was employed. An exceedingly fine and well-known example is the similarly placed scroll in the architrave of the great door to the Church of the Madeleine at Paris. In spirit the principle is exactly that of the Miracoli scroll, but the tendril is less obvious, the acanthus leaves covering the whole surface and being closely inter-

twined and executed in comparatively high relief, in this case in black marble in contradistinction to the white marble used in most Italian examples.

It is not necessary to give many examples of the use of the acanthus outside Italy during the period of the Renaissance, for it is difficult to find anything that is fresh, but perhaps it may be of a little interest to illustrate two typical French examples. Fig. 54 shows the balustrade of the garden of the Cluny Museum, Paris, and indicates that, while the acanthus retains its old characteristics, it is here employed in a new position. The workers of the time were willing to use it in other than traditional circumstances. Whatever criticism one may pass upon the general design, one is compelled to admit that the acanthus work is satisfactory, but it displays no new variation. This is not the case with it as employed on the choir stalls of the Cathedral of St. Omer, near Calais (Fig. 55). A great deal of carved oak and mahogany of this type is to be found in French churches, generally in such fittings as choir stalls and confessional boxes. It belongs to the later debased period of the Renaissance, during which time a great deal of ormolu decoration was also produced of the same description. The ornament has comparatively little relation to the shape of the object which it is intended to embellish, but appears as if it were thrown on open-handedly, and its principal characteristic is the acanthus foliage with which its many twists and volutes are enveloped. There is little connection between one leaf and another, but the leaves are applied for enrichment only. They are rounded in their character, but that they are those of the acanthus is perhaps as much as can be said. It is not always possible to recognize the original plant in its representation at this time. In the particular example of which a sketch is given, there is a plain leaf enriching the lower part of the division between the stalls.

*G. A. T. Middleton, A. R. I. B. A.,  
Past Vice-President of the Society of  
Architects, England.*



# Warehouses

## THEIR PLANNING AND CONSTRUCTION.

The rapid change in growth and in business methods, during the past decade, has been nothing short of marvelous. In no line has this change been more marked than in the storage warehouse business. Especially is this true in large cities, where congestion in mercantile districts, real estate values, and limited available railway and dock frontage enables the merchandise to be more quickly and readily handled through the warehouse.

Commercial requirements have called for such an advanced stage in storage warehouse construction as to cause apprehension, in some localities, on the part of the public warehouseman.

The use of the public warehouse for storage of all commodities and the trend in this direction implies certain conditions necessary for fulfillment by the public warehouseman. Such standards calling for a high grade of buildings, establishes a close competition, quite plain to the warehouseman, and he realizes that to meet these demands, all future buildings must be erected accordingly: He must offer accessibility in location; modern conveniences for prompt handling of goods; the lowest possible rate of storage charges, and of fire insurance; and above all, he must produce a building of such modern fire-resistant construction and so safe-guarded against fire dangers, as to afford guarantee of absolute safety to merchandise while in his custody.

From the viewpoint of the patron of the warehouse, it may be conceded that the forenamed demands are not unreasonable. The proper safe-guarding of his goods, especially against fire, is the very life of his trade.

This established competition is quite plain to warehousemen, and they realize that future buildings must be constructed accordingly; the point of anxiety, therefore, lies in the inability of the average warehouseman to know exactly the

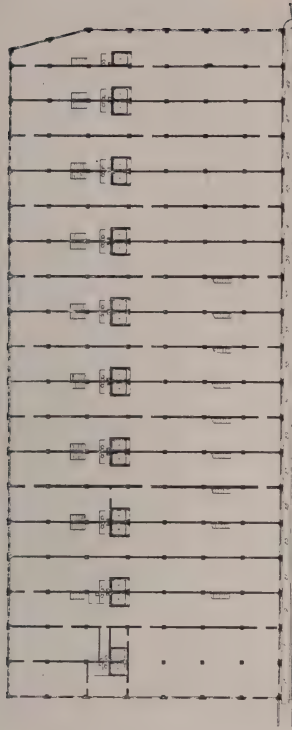
proper type and nature of building he must erect. He cannot afford to make any mistakes.

There was a time when so-called mill-constructed or slow-burning and semi-fireproof buildings, covered all requirements. Such buildings were looked upon as model structures. To-day, without automatic sprinkler protection and other means of fire safeguards therein, these types are not even in the competitive class. With all modern means of protection, the demands are for something superior.

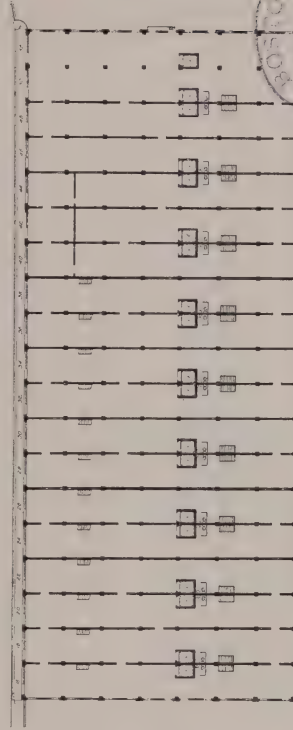
Thus we find the situation, with reference to warehouse construction, similar to that of hotels and office buildings: The public and the trade are demanding every possible convenience, every possible safe-guard against loss of life, loss by fire, or by other means of destruction.

The foregoing statements relate more particularly to the erection of new structures. Many of the existing buildings built during recent years are too valuable and too systematically and satisfactorily adapted for their purposes, to be removed and replaced by the incoming structure of an ideal type. Competition, however, may require that where possible, these must be modernized, and this may be done, in many cases, at a moderate expenditure.

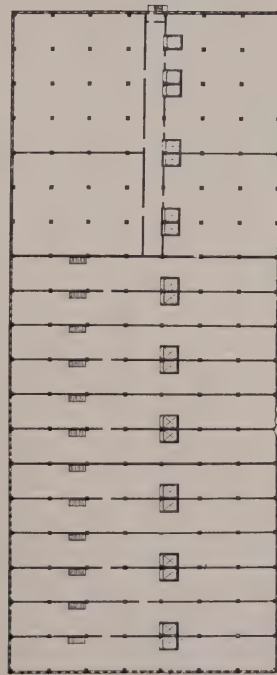
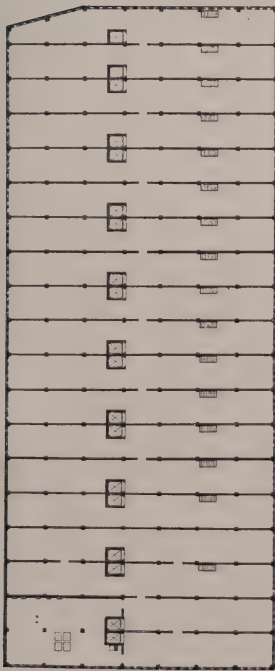
If owners of such properties should investigate the existing individual fire hazards and protection incident thereto, they would consider seriously the advisability of improvements. It may be found, in a large number of instances, that by sub-dividing great areas by brick fire walls; by properly protecting vertical floor openings, such as elevators and stairways; by added protection from outward exposure; by separating the common from the hazardous commodities; and, by equipping the premises with an approved automatic sprinkler equipment, such properties could be so modernized as to fill present and near



Terminal Road



Third floor plan and terminal road, showing manner of access to storage sections from the main terminal.

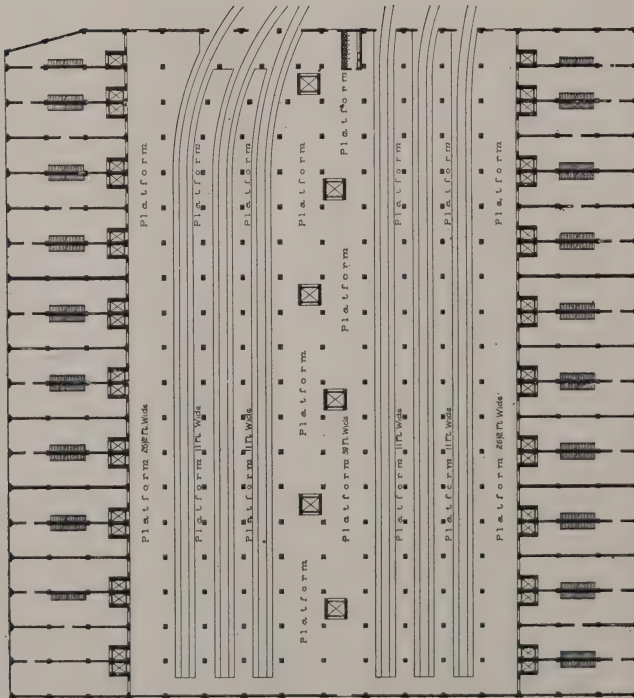


Fifth floor plan, showing separate storage rooms, also some of the cold storage rooms. Everyone of the latter is properly insulated, sanitary, and fitted up with conveniences for the storing and handling of perishable goods.

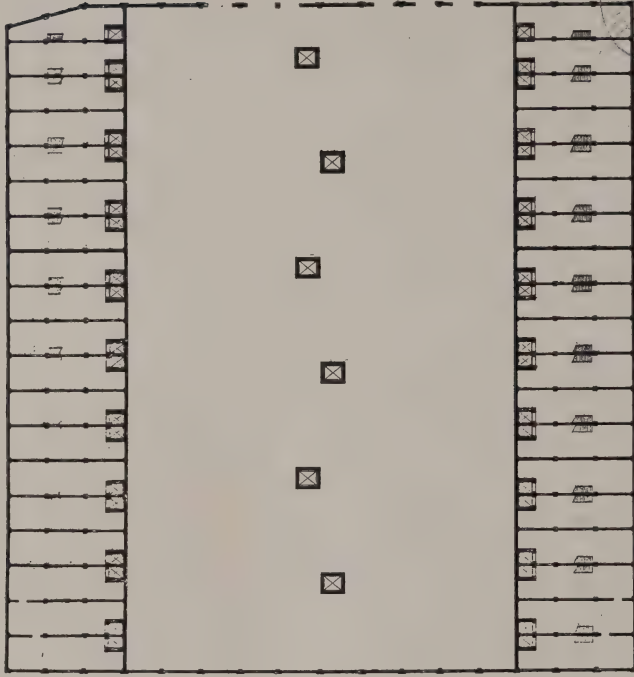
PITTSBURG TERMINAL AND STORAGE WAREHOUSE COMPANY.

Pittsburg, Pa.



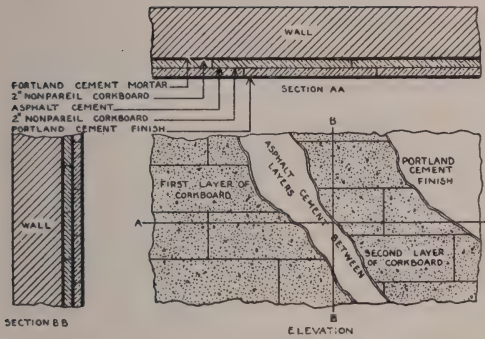


First floor plan, showing the arrangement of the railway service platforms.

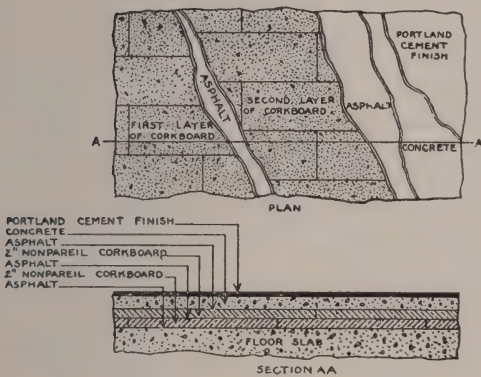


Basement floor plan.

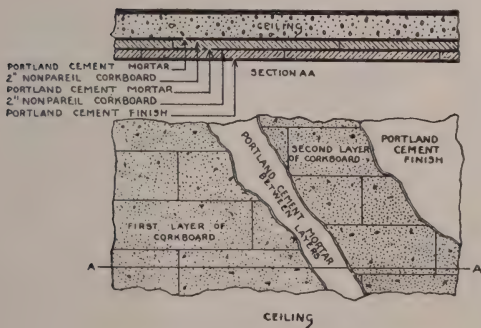
PITTSBURG TERMINAL WAREHOUSE AND STORAGE COMPANY.



Detail of four-inch cork insulation of two layers, in connection with brick, stone, concrete or hollow tile walls.



Detail of four-inch cork insulation, two layers, concrete finish, in connection with hollow tile or concrete floors.

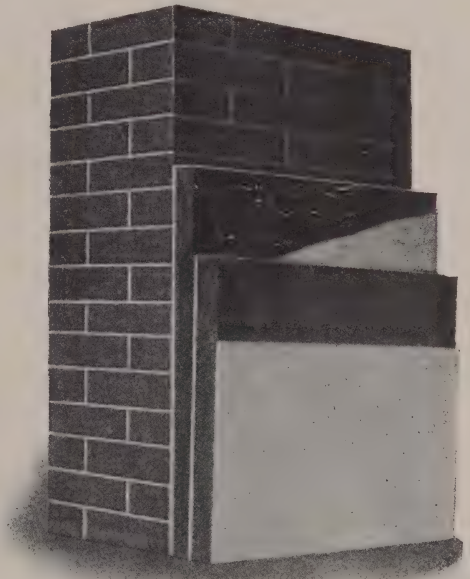


Detail of four-inch cork insulation of two layers, in connection with concrete or hollow tile ceilings.

future requirements. The fire risk could thus be reduced to a minimum.\*

Public storage warehouses may be considered as comprising three classes, viz: Cold Storage Warehouses, General Merchandise, and Household Storage; the freight houses or warehouses of Railroad and Steamship Companies, belonging to a separate class, are not treated under this article.

These three classes are distinctive with respect to adaptability of building for their respective occupancies. The cold storage warehouse requires that especial



The type of construction approved by the Underwriters.

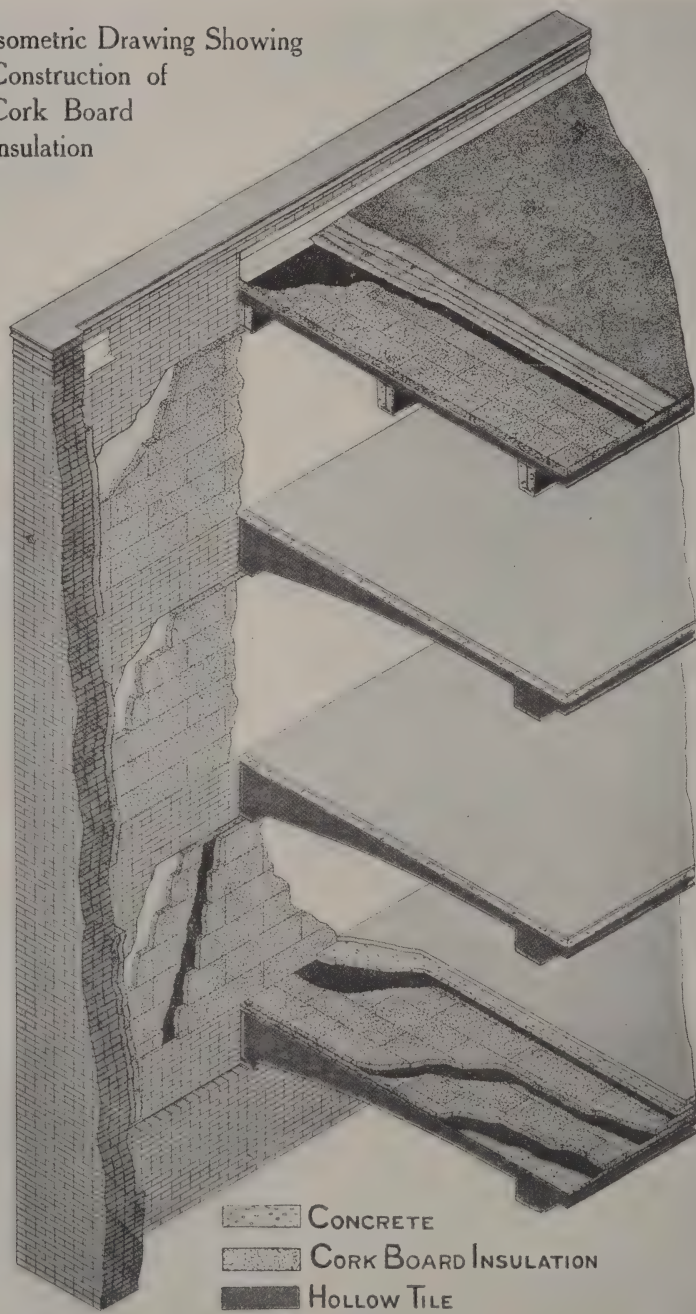
recognition be given wall, floor, and column insulating properties, and conservation of cold air. A building to be occupied exclusively for the storage of household furniture, may require higher ceilings, many small compartments, but lighter column and floor supports, than a general merchandise warehouse.







Respecting adaptability for use, as above mentioned, there may be but two general types of structure worthy of es-

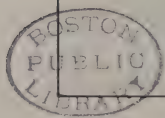
\*The various Underwriters' Inspection Offices, and leading architects, no doubt, would gladly give suggestions for the improvement of the fire risk in all such buildings.



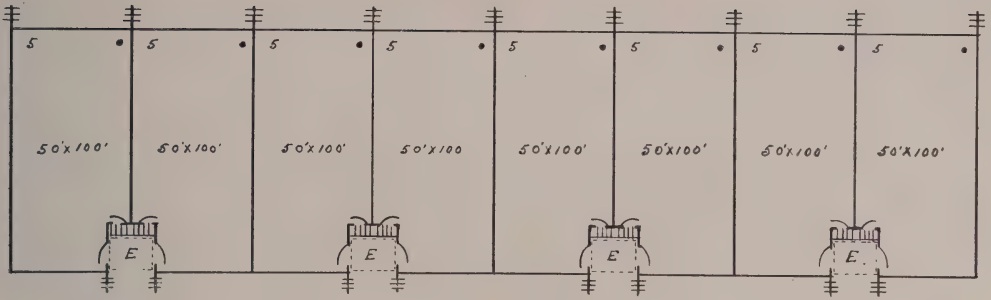
Isometric Drawing Showing  
Construction of  
Cork Board  
Insulation



-  CONCRETE
-  CORK BOARD INSULATION
-  HOLLOW TILE
-  HYDRAULIC CEMENT FINISH
-  ASPHALT CEMENT
-  PORTLAND CEMENT



A MODERN AND APPROVED METHOD OF INSULATION FOR A  
COLD STORAGE WAREHOUSE.



A plan of eight warehouses, of 5,000 sq. ft. each, showing elevators and stairs in an outside shaft. Passage from one section to the other is gained by passing over an iron grating in outside shaft. A fire escape is placed on opposite side of each section, so as to comply with Building Code. This is an arrangement for buildings of mill construction, equipped with sprinklers.

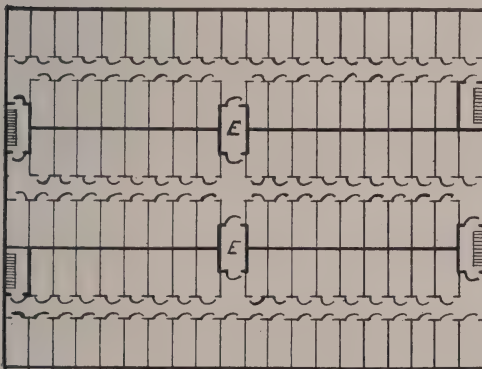
pecial mention, as being suitable in all respects for a modern standard warehouse. Ranking first, is the modern fire-proof building, a protected steel skeleton building having brick walls, tile or reinforced concrete floors without wood surface, similar partitions and roof, without interior or exterior wood trimming or frame work. This includes standard shafts with fire coverings for elevators, stairways, and all vertical openings; also the proper safe-guarding of outside wall openings from exposure. In brief, a model fireproof building. Experts differ as to the relative value of tile or reinforced concrete. As to the superiority of a steel frame structure with tile or concrete insulating properties,

as compared with reinforced concrete construction, in a building of modern height, it is not the purpose of this article to offer comparison. Reinforced concrete is in a secondary stage of experiment, and when this form and practice is standardized, there is a strong belief that it will hold its own with the protected steel frame type, at heights practicable for its use.

The second type of construction in warehouse building, that of mill or slow-burning, may be considered under certain conditions, with some restrictions with regard to height and area. This will be touched upon later in this article.

The modern fire-proof building appears to have no general limited restrictions as to height, such as govern structures of mill or joist types. The greater the height of the building the more considerate should be the question of limitation of individual area. This pertains particularly to the vertical opening hazard, such as elevators and stairways; the great and unlimited areas, and unprotected vertical openings being largely responsible for the extensive damage from fire in fire-proof buildings. Combustible goods will burn, whether stored in a fireproof or frame building. Fire will destroy anything, give it enough fuel, draught and continuous lines to follow; but confine it within a limited space, within non-combustible enclosures of proper resistive quality, and the damage beyond that to the combustibles therein, usually will be nominal.

It is wise, however, not to exceed, say,



Floor plan of fireproof household goods warehouse, showing arrangement of fireproof compartments, fire doors over openings into same, and arrangement of elevator and stair shafts. The receiving and shipping conveniences are on the first floor, in the central part of building. Elevators are large enough to carry a moving van.



eight stories in height, nor to go beyond a floor area of 10,000 sq. ft., for warehouses. The area, in fact, should be no greater than 5,000 sq. ft. without standard fire-proof partitions, and even this is rather large for highly combustible goods. With an approved automatic sprinkler equipment, the area may reach a greater limit in individual instances.

Claim may be advanced by architects and builders that this is too costly and

properties. The main plant is of modern fire-proof construction throughout. It is divided by fire walls into seventy odd vertical fire sections of six stories each, their dimensions averaging 20' x 158', or 3,200 sq. ft. for each room. This makes about 400 individual fire-proof compartments. There are really fewer compartments than this, owing to the space devoted to cold storage, offices and power plant facilities, although the individual



MERCHANTS' ICE AND COLD STORAGE COMPANY.

Cincinnati, Ohio.

Seventh floor, showing top ceiling insulation. Insulation of 30-degree rooms is erected on top of concrete forms. Concrete is applied directly to insulation, and the insulation plastered after forms are removed.

somewhat unnecessary. To illustrate that small area limitation is advantageous, reference is made to the compactly built property of the Pittsburg Terminal Warehouse & Transfer Company, Pittsburg, Pa. This plant for convenience, compactness, construction, traffic facilities, protection and insurance, is perhaps one of the most effective of warehouse

storage sections are separated in this way, permitting of several hundred compartments, divided in the manner described.

The height of this building is six stories and basement. The elevators and stairways are in fire-proof shafts, cut off at the various floors by automatic operating fire doors. The premises are equipped with automatic sprinklers, other

auxiliary fire protection, and excellent watchman patrol service. Railway and river facilities are at hand. The out-ward exposure is guarded.

With all these modern conveniences, construction, protection, and a low insurance estimate, the plant in question may be said to meet all modern requirements. The operators of this property publish an endorsement from the Chairman of the Committee on Construction of Buildings, of The National Board of Fire Underwriters, to the effect that the property in question is of the most thoroughly fireproof nature that has come to his

years and those now in course of erection are of steel and reinforced concrete construction. Most of the buildings are equipped with approved automatic sprinkler protection, and in addition to this is a private fire main and hydrant system throughout the yards of the plant. The buildings are well separated, so that should one of them burn it is hardly probable that fire would communicate to any of the others.

The Bush Terminal Company is now promoting the erection of loft buildings at their plant for shippers and manufacturers. The first one of its kind is about



THE BUSH TERMINAL COMPANY'S PIERS, WAREHOUSES AND RAILROAD YARDS.  
South Brooklyn, New York.

attention. This plant is worthy of a careful inspection and study.

The immense plant of the Bush Terminal Company, South Brooklyn water front, New York, is an example of the development of the warehouse industry. Its many buildings, piers, docks and terminals cover about 200 acres of ground, comprising the largest single warehouse plant in the country.

The warehouse buildings of this concern are well divided into groups, which, in turn, are subdivided by fire walls. The general type of construction of the older buildings is of the mill order, while the buildings erected during the last few

completed, and appears to be a model in all respects. It is of fireproof construction, six stories in height, and is subdivided by fire walls into many independent fire divisions. The property is being protected with automatic sprinklers. It is the intention to have buildings of this nature occupied for general storage purposes and for all kinds of light manufacturing. The quick and convenient manner of receiving, handling and shipping raw products enables the manufacturer to turn out his finished product without the necessity of rehandling it, as would otherwise have to be done.

Modern cold-storage warehouses of



fireproof construction mark a wonderful improvement in that branch of the storage industry. In a modern standard structure the fire risk is of a minimum nature. Present means of wall, column and floor insulation practically remove the fire hazard formerly common in sawdust and paper and wood-packed enclosures. The many modern methods of insulation of cork and fiber products are so well installed as to properly confine temperatures, their presence in the struc-

ture must be no unprotected openings from floor to floor, as some means of cold-air processes permit. For economical reasons, small areas or compartments are desirable, in order to maintain proper temperatures. Care should always be taken to completely insulate all compartments, particularly the columns and partitions. The failure to do this, owing to many necessary changes in temperature, will permit dampness or moisture to gather, which is objectionable. Heat is



VIEW OF A DESTROYED SECTION OF THE COBURN WAREHOUSE.

Indianapolis, Ind.

ture itself rather tending to serve as a fire retardant thickness to building parts. The modern building is entirely of fireproof construction, and has all vertical openings in cut-off fireproof shafts well vestibuled. The refrigerating plant is in a detached fireproof building, and in many instances has two and three separate sources of refrigeration.

The circulating cold-air distributing system is giving way to the direct-expansion method, thus eliminating ducts and recesses throughout the building. There

not essential. The entire lighting system should be carried in metal conduits. The outward exposure is almost eliminated by the solid walls required for structures of this class.

Close attention to the foregoing injunctions leaves but little in the way of fire risk. Warehouses of this type may be found in Warehouse "C" of the Sheriff Street Market & Storage Company, Cleveland; the Merchants' Ice & Cold Storage Company, Cincinnati; the Pittsburgh Terminal & Warehouse Company,



Coburn Warehouse fire, showing the fire doors on the wall between Sections "D" and "G." This view shows that the automatic door on the fifth floor closed only half way, and the one on the fourth floor failed to close at all.

The girder holes shown in the wall at the left of these doors and marked X, X, X, extend entirely through the wall without any intervening brick partition. It was undoubtedly through these holes that the fire gained access to the upper floors of Section "D," particularly through the one on the second floor, directly under those shown.

Pittsburg, and at Boston, Chicago, Jersey City and Detroit.

Warehouse buildings of the mill-constructed type, without automatic sprinkler protection, have proved somewhat disappointing to owners who have suffered from fire therein. Underwriters have also many times over-estimated the fire-resistive properties accredited to this

class of construction. As a result of assuming large lines of insurance on and in buildings of the mill-constructed order, insurance companies have been called upon to pay dearly for their experience.

Extensive fire losses in mill-constructed buildings are largely due to faults in the buildings themselves. Common and



serious mistakes are often made by failure to carry out requirements or specifications necessary, in detail, for the reasonable protection of a mill-constructed building. In such buildings, for example, it is often found that the elevator and stair shaft is far from standard; that the fire doors to openings therein are but makeshifts, or the owner has permitted an open stairway or chute to pierce two or more floors. Perhaps the

not of standard thickness, and the fire doors over openings therein are not of an approved type, or the building may not be properly protected from outside exposure.

Many of the foregoing important features are sometimes given too little attention, and failure to observe them is largely responsible for the rapid spread of fire in buildings of this class.

An example of omissions was shown



COBURN WAREHOUSE.

Indianapolis, Indiana.

This building was of mill construction. The flames swept through the main sections of the property without resistance from the heavy floors and supports of the structure.

elevator walls do not extend through the roof. The architect or builder has failed to make the floors waterproof, and has not provided scuppers. The height permitted for buildings of this type is overreached. The area permitted is too great. The beams and girders are improperly set. The proper wall thickness is deviated from. The heating, ventilating and lighting systems are improperly installed. Division walls are

by the destruction of the Coburn Warehouse, Indianapolis, January 29, 1908. In this case the builder failed to carry out the details of construction evidently originally planned. The property in question was occupied for the storage of general merchandise, the building being five stories and basement in height, with total grade floor dimensions of 150 x 270 feet. The building was subdivided by fire walls into nine equal parts. The en-

tire structure gave evidence of having originally been intended as one of standard mill construction. Departure from the standard, however, was responsible for the rapid spread of the fire, which destroyed about one-half of the building sections and a larger percentage of the stock. In this instance, the division walls were not standard; the fire doors were of an unapproved type; unprotected ver-

ing is a summary contained in an official report of this fire:

"This fire has again demonstrated the unreliability of steel rolling doors as a fire retardant—the necessity of standard fire doors on both sides of openings in walls; that girders, as well as floor beams, should be carried on corbels or pilasters, or should have at least eight inches of brick between ends of timbers,



ST. LOUIS REFRIGERATING AND COLD STORAGE COMPANY.

St. Louis, Mo.

A cold storage warehouse in course of construction, showing interior concrete construction and outside curtain walls, just started. The ceiling of third floor is insulated with three-inch cork board, laid down in the forms before the concrete is poured in. The wall insulation is to be continuous. This warehouse, when completed, will undoubtedly be the most scientifically insulated building yet contrived.

tical openings existed, and the openings in walls made for the girders to rest upon extended clear through without intervening brickwork.

These variations from the standard were responsible for the rapid and destructive progress of this fire. Follow-

where the latter are inserted in walls; that openings in fire walls above roof, for purpose of drainage, nullify the value of such walls as fire cut-offs; that all floors in buildings of this type or other good types of construction should be provided with scuppers of ample ca-



capacity; the necessity of metal flashings at floors around posts and at walls; and last, but not least, that buildings of so-called full mill construction burn almost as readily as buildings of inferior design, and that all risks similar to this should be provided with sprinkler equipments. Stock should not be piled in front of windows, and never within 24 inches of wired glass windows. This, and our past experience, has clearly shown the

amazement, the fire completely wiped out the entire structure, which was a fairly good specimen of so-called slow-burning construction. In height, it was four stories, basement and two sub-basements. The grade floor area covered 13,875 square feet. The walls, floor supports, floors and all other structural features gave evidence of good construction. The elevator and stairway was in a brick shaft, having all openings protected by



MODEL COLD STORAGE PLANT OF THE MERCHANTS' ICE AND COLD STORAGE COMPANY.  
Cincinnati, Ohio.

This is of modern fireproof construction, and divided into three separate fire divisions.

necessity for the development of a more efficient type of fire door."

Another example of destruction of a slow-burning building is that of the Hower Building, Akron, Ohio, which burned, May 18, 1909. So convinced were they by the supposedly superior type of construction that underwriters accepted unusually large lines of insurance on and in that building. To their

automatic sliding and steel rolling fire doors. The building was occupied principally for storage, with several light manufacturing concerns on lower floors.

The fire in question started in a lower floor of the building and rapidly gained headway to upper floors, the large undivided area of structure allowing the flames to spread laterally. Whether or not the upward rapidity of flames was

due to the failure to operate of fire doors on elevator and stair shafts is not known. However, this, the absence of individual fire protection and inability of the fire department to cope with the fire, owing to its magnitude upon the arrival of the apparatus, are given as reasons for the rapid destruction of the property.

These are but two of many instances illustrating that buildings of the slow-burning mill type will burn just as readily as those of an inferior design once a fire has gained headway. To reduce or eliminate the possibility of fire in mill-constructed buildings reaching a magnitude of extensive destruction, great care must be given to the constructional details.\*

Owing to the variety of goods stored in a general warehouse, it is advisable to construct a building for that purpose so that all such articles as oils, acids, rags, cotton and others known to warehousemen and underwriters, may be placed in separate sections. Spontaneous combustion is an evil which enters largely into the hazards of warehouses. Care should be directed toward examining all articles of storage, and known commodities of this class stored only in connection with articles which might in no manner create a self-igniting combination.

The United States customs regulations pertaining to storage buildings suitable for goods while in bond appear to be extremely weak. These regulations should be revised and made more rigid. In justice to the warehouseman who has gone to the expense of erecting a model fireproof storage building, he is discriminated against by the government permitting goods in bond to be stored in buildings of the most ordinary type.

The government regulations were, no doubt, intended to apply to buildings of mill construction, or better. However, as they now read they are somewhat ambiguous and place too much discretionary power into hands of local representatives as to their intended application. The customs regulations of 1908 read as follows:

\*The standard for buildings of mill construction, as recommended by the National Board of Fire Underwriters, is an excellent basis to closely observe.

"Article 482, Page 226, Application to Bond.—In order to establish a bonded warehouse, the owner, or lessee, shall make application in writing to the Collector of the Port, describing the premises and location, and stating the class of warehouse which it is proposed to bond.

"The application must be accompanied by a certificate, signed by the president or secretary of a board of fire under-



Murphy Ice and Cold Storage Warehouse Co.  
Detroit, Mich.

writers, where such board exists, and at other ports by the proper officers or agents of two or more insurance companies, that the building offered is a suitable warehouse, acceptable for fire insurance companies. The Collector will thereupon direct the Superintendent of Warehouses to examine the premises and report in writing the particulars relative to the location, construction and dimensions of the building, the means provided for the safe keeping of merchan-



dise, whether the building is separated from adjoining buildings by walls in which there is no door or other openings, and all other facts bearing on the subject.

"On receipt of such report, the Collector will transmit the same to the Secretary of the Treasury, together with the application, the insurance certificate and an expression of his views thereon."

Also, on page 228, Article 489, pertaining to fires, lights and locks, is the following:

"Fires shall not be permitted in any warehouse, except in the business office; and where lights are required, safety lanterns or electric lights only must be used. All the doors and other fastenings of bonded warehouses must be secured by customs locks of different pattern from those of the proprietor."

It would appear from the foregoing regulations that, as an inducement to encourage superior construction of warehouses, the government should be requested to establish requirements that would be more in keeping with modern types of warehouse construction. The American Warehousemen's Association could, no doubt, lend much influence to this end by applying for a revision of these regulations.

The third class, or warehouses for storage of household furniture, should receive careful consideration. This class is accredited as having an exceptionally unfortunate fire record. This record may be due to the fact that, until recent years, buildings of inferior construction were almost generally used for the storage of household furniture.

The nature of the property stored presents conditions favorable to causing a fire by spontaneous combustion, from such sources as that of concealed oily rags, oils, chemicals or matches. There is no reason, however, why this unsatisfactory and hazardous condition should not be overcome. Great improvement is shown by recently erected buildings of fireproof construction, with stairways and elevators in separate shafts, having openings at each floor protected by standard fire doors. Each story is divided by fireproof partitions into separate stor-

age rooms, openings into such rooms protected by standard fire doors, so that any room can burn out without communicating fire to adjoining rooms. The whole premises are protected by automatic sprinklers, with floors arranged so that water from the sprinklers, in case of fire, will drain outside of the building. The wrapping, packing and crating and boxmaking rooms are also in fireproof compartments.

Household furniture storage warehouses of this construction, arrangement and protection should strongly appeal to the man who desires to make use of his domestic values after once having placed them in storage.

Architects and builders frequently fail to recognize the real importance and significance of standard fire doors. They should discourage, as far as possible, openings in fire walls. Fire-door protection of the vestibuled design is the best method to employ, particularly in buildings containing hazardous and highly inflammable goods. Fire doors of an inferior type are of no value. The best fire door that can be made is none too effective, and even then, if improperly hung, finds its efficiency destroyed.

Consider, for instance, that a building is divided into two sections by a 16-inch fire wall (this fire wall is intended to establish two separate fire sections of the building); assume that, for convenience, it is desired to cut a passage or doorway through the wall on each floor. By doing this the wall loses much of its efficiency as a fire stop, notwithstanding that the openings are well protected. No substitute can be made that would make the wall as sound as it was formerly. Fire may not penetrate an opening protected with standard double fire doors, but there is an element of smoke and water hazard that cannot be overcome. The susceptibility to damage from smoke and water may be greatly lessened by providing only such fire doors as the experience of years, by skilled fire protection engineers, may recommend. It is a useless expenditure to install any other type of fire doors.

The Underwriters' Laboratories', Inc., directed by the National Board of Fire

Underwriters, after experiments and tests of several years, recommend a type of standard fire door. They recognize its complete construction and setting only under the most rigid tests. The manufacturers of the door must first qualify as to his ability to make such a door: that he can properly cover it; that he can procure approved hardware and fittings, and properly place or hang the door. Coupled with this, must be a guarantee that the manufacturer will make all doors in accordance with such requirements. Once fully qualified, the manufacturer's name is placed upon an approval list of concerns that can satisfactorily make fire doors of real value.

These doors are inspected by agents of the laboratories and labeled with an approval tag, fastened to the door; nor will the various underwriters' inspection offices recognize other than these labeled fire doors. This approval carries with it a guarantee that the owner is obtaining that for which he is paying, and that the

real value of the doors will be recognized as a suitable fire retardant by underwriters.

The same approval system is followed by the Underwriters' Laboratories, with respect to wire glass windows, fire appliances and structural parts.

The greatest care should be followed in contracting for fire doors, and none but those of a labeled type considered.

The requirements of this article will not include the details of construction for the various classes of warehouse buildings. Future warehouse patronage, however, will unquestionably require buildings of the very best types of fire-proof construction that may be devised. Prospective builders, as well as architects, may bear this well in mind and not erect what they want, but that which patrons of warehouses will require of them.\*

*Charles H. Patton.*

\*The illustrations accompanying this article outline many of the salient features to be observed in warehouse construction.



SANATORIUM OF DR. WARDA.

Blankenburg, Thuringia.

Albert Gessner, Architect.



# GLASS

## Its Adaptability in Building

Much of the matter which is being presented in these pages has for its ultimate object the closer cooperation between architects and the building public. It is chiefly through the influence which architects are able to exert upon their clients that better designed and planned buildings can be achieved, better methods of construction employed and more thoroughly honest building materials incorporated. This closer relation between architect and client of which we speak is, however, not the sole means of producing better results in our architectural endeavors. The closest understanding between architects and builders, meaning thereby purveyors of building materials as well as constructors, is quite as essential if lasting results are to be achieved. It is no more important for the success of a building operation that the builder or constructor should be able to understand the architect's ideas as they are conveyed to him through the convention of geometrical drawings, in writing and by the spoken word, than that the architect should have a "judging" knowledge of the nature of the materials and processes which he is specifying and in which he is planning.

It is for the purpose which has been

briefly stated above that the following article is presented on the subject of glass, a building material with which architects are not generally as familiar as they might be. It is only to straight glazing that reference is here made, as decorative or stained glass work is really a field by itself, in which architects take no active part, providing only the setting and selecting the proper artists to supply the designs. Nor do most architects take a much livelier interest in straight glazing work. The usual practice seems to be to specify window or other plain glass in a very vague way and to trust that the proper kind and quality will be supplied—sometimes a very unsatisfactory method, especially when the glassman is ignorant of the precise conditions which are to be met in the job.

For the architects' purpose it is not, of course, necessary to go into a minute technical account of manufacturing processes. More useful to him is it to set forth the several peculiarities and qualities of the material as it is turned out in its different varieties and to point out the particular applications of each variety. This is the method which Mr. Bostock has followed in his presentation. The article is intended to be of a thoroughly practical character.—Editors.

All sheet glasses, which are the subject of this paper, are very similar in chemical composition, being silicates of soda,\* lime, lead, nitre, heated in furnaces at temperatures sufficiently high to melt them out clearly. The molten mass is then converted into what the layman knows as glass by one of three processes—blowing, rolling or pressing.

\*A fair idea of the composition can be got from the following batch, it being one used in producing a very high grade window glass in a modern natural gas run tank furnace:

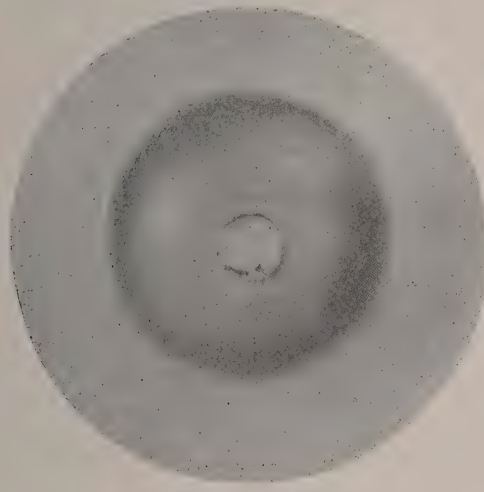
100 lbs. Sand.  
39 lbs. Salt Cake (Sulphate of Soda).  
30 lbs. Crushed Limestone.  
2½ lbs. Ground Carbon.  
1 lbs. Arsenic.

The various colors in glass are obtained by adding to the "mix" or batch the necessary chemicals before heating in the furnace—oxide of iron for greens; copper or gold, for rubies; sulphur or uranium for yellows, cobalt for blues.

Glasses to be blown into sheets are now all made in cylinder form, and afterwards flattened out to form sheets, the molten glass being first gathered upon a blow pipe in sufficient quantity to make whatever size sheet is intended. This molten mass is then blown into by the workman to form a ball attached to the pipe by a neck, caused by drawing upon

the pipe at intervals between blowing, and afterwards by successively reheating and swinging in a pit provided for that purpose it is formed into a cylinder of 15" or thereabouts in diameter and from 56" to 80" long. This cylinder is then detached from the pipe, split down its length by a hot iron known as a cracking iron, or by a diamond. It is next placed in a flattening oven to be reheated and smoothed out from this cracked side to a perfect sheet, which may, of course, be cut to any desired size or shape.

Rolled or plate glasses are made by dipping from the pot or furnace upon



A Rondel.

an iron table whatever amount of molten glass may be necessary, and then rolling it to the desired width, length and thickness, passing it down a tempering lehr which, by very slowly cooling it, prevents its being brittle, and then, if necessary, polishing it.

Pressed glasses are made by ladling the necessary glass into a mold and pressing to the desired shape. Their application to building is limited.

Figured or pattern rolled glasses are made by having the pattern cut into the roller, although the process has been varied by having the pattern upon the plates of the table. A following or double roller is also used to some extent. This, by preventing the glass

buckling away from the table, produces a very smooth surface.

The subject of the proper use of plain window glass is not so simple a matter as it would seem. Below are enumerated the kinds of window glass procurable from stock in New York City at any time:

American Single Strength 3 qualities

American Double Strength 3 qualities.

French Single Strength 3 qualities.

French Double Strength 3 qualities.

German 24 oz. English 15 oz. English 17 oz. English 21 oz. English 26 oz. English 32 oz.

These glasses are mentioned in the order of their quality, the poorest being first. I should like to put American last and best, but unfortunately this cannot be done, due primarily to the fact that no American manufacturer has yet taken the necessary care and pride in his brand to educate workmen to produce the best results, though the writer has seen glass melted in our natural gas run furnaces superior in the molten state to the glasses of the old world. Several factories have recently been showing signs of awakening to this fact and soon, no doubt, there will result in America substantial developments in the art of glass-making. The secret of inferior American sheet glass seems to lie in the mad rush for maximum of production on the fixed charges of the factory without regard to quality. American single strength glass will run on an average about one-tenth of an inch in thickness and can be used safely against ordinary wind pressures in sheets up to 28"x30". For weight 18 to 19 ounces to the square foot must be allowed. Double strength runs about one-seventh of an inch in thickness, weighs about 24 ounces to the square foot and can safely be used up to 40"x80" or 50"x60", though in practice this is hardly ever done, as usually lights of this size are required in a better quality glass.

In specifying American window glass, where it is desired to get the best, it is well to specify a natural gas tank-made, hand-blown and dipped brand. Glass made by this process is to be preferred, because the fuel, being very clean and carrying no surplus car-

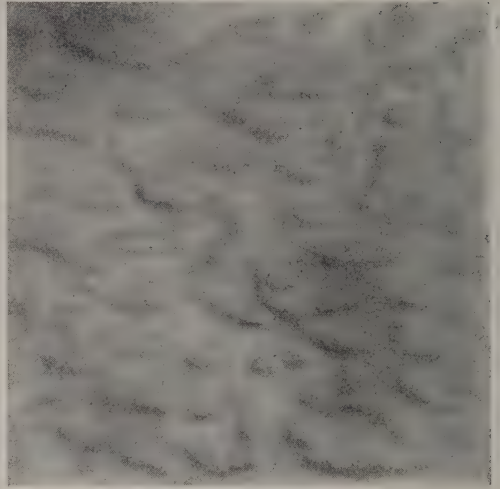


bon, the surface will not be "burnt," that is, have particles of carbon burnt upon it. Tank-made glass is preferable to that made in pots, because it is now made almost solely upon a salt cake or sulphate of soda base, whereas, to be able to melt fast enough in pots to maintain the high producing rates set by the tanks, manufacturers resort to soda-ash, in varying quantities, as a quick melter, and soda-ash glass is apt to contain some small percentage of "free acid" which in time, and especially in moist atmospheres, will cause the glass to stain and become iridescent, as will often be noted in old buildings. To remove the sulphur deposit of the flattening ovens from the sheets, which has a similar staining effect if left undisturbed, recourse is had to dipping the sheets while hot in a bath of diluted acid. This bath removes the sulphur stains, but not in soda-ash glasses. Faults of workmanship are, of course, apparent in all glasses, but are usually cut into the poorer sizes and qualities.

Hand-blown glass has met a competitor in the form of a new process known as "drawing," patented in 1895 by John Lubbers, of Pittsburg, and developed for the purpose of producing cheaper window-glass cylinders. For several years the product was too inferior in quality to compete seriously with the hand-blown. Recently, however, the process has been very materially improved, yielding fairly good glass, though it can never hope to displace the hand-blown when quality is essential.

French glass ranks next to the American in quality. The best grades will stand all but the most exacting criticism, but it is well to remember that French window glass is thinner than the corresponding single or double quality of the American product.

The best quality of blown glasses are the English, and only the best grades are imported, as their prices are high and it pays to use them only where the best is needed. That most generally used is the 21 oz. The two largest English producers date their existence back into the 18th century and having made it a point all this time to maintain their quality to the highest standard the goods



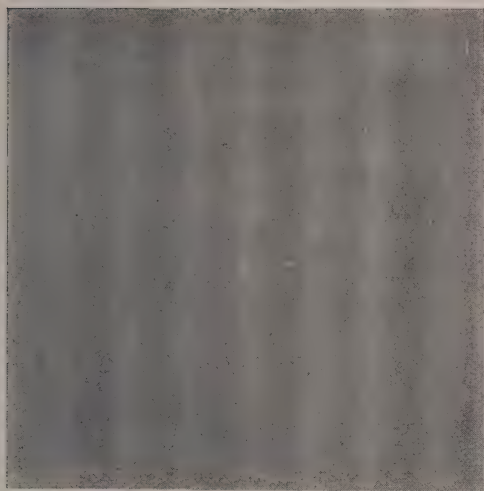
Muffled Glass.

can be depended upon to run uniform and good. Some of the best grades of this glass cannot, in fact, be told from plate glass except by the expert. The English produce so many thicknesses from 13 oz. or Dry Plate glass to 40 oz. or British Plate that it is usual to designate them by the weight per square foot, therefore the expressions 15, 17, 21, 26, 32 and 40 oz. glass.

German sheet glass is in quality about the same as French, but is a very white glass, for which reason it is sometimes used where it is desirable that objects



Crackled Glass.



Fluted Glass, the Forerunner of Prismatic Lighting.

indoors be seen in a perfectly natural light.

American plate glass has developed so rapidly during the last twenty years that, notwithstanding some slight recent retrogression in quality, it is fit for any purpose except possibly for high grade mirrors where the greenish tint of the glass which will show back when silvered makes it desirable to use the French or Belgian plates. There are, of course, all thicknesses of polished plate from  $\frac{1}{8}$ " to 1" thick, but the usual glazing thickness is  $\frac{1}{4}$ " and will weigh about  $2\frac{1}{2}$  lbs. per square foot.



Chipped or Frosted Glass.

Getting away from the question of plain glass and outside of leaded glass, upon which this article does not pretend to touch, there are many interesting and curious glasses which have a place and value in architecture. Though very few of them are allied distinctly to any time or decorative period there are extant some that have interesting histories. Possibly the oldest glass existing made primarily as window glass is that excavated some years ago from Roman ruins on the banks of the Rhine. These lights, evidently made without the aid of molds, were about 6"x9",  $\frac{1}{2}$ " or so thick in the center and  $\frac{1}{8}$ " on the edge, and of a greenish tinge. These came into the hands of a famous German firm, which made reproductions so faithfully that only the time stains differentiate them from the originals, as even the imperfections in the old glass arising from the fact that their furnaces could not be raised to a very high temperature, have been faithfully reproduced. These lights have been placed upon the market under the name of "Norman Slabs" and are being used, as witness the entire front of an Oxford street restaurant in London, and in conjunction with other glass in work recently done by a well known American decorative glass firm. Wherever the object is to obscure vision while admitting practically a full light with artistic effect, they are to be recommended.

Another interesting survival is that of the Rondel, the oldest known commercial form of window glass, the sheets being obtained by blowing into the molten glass upon a pipe until it becomes a perfect sphere. This sphere is then reattached at the exactly opposite point from the pipe to an iron rod by a little hot glass, the pipe detached and the sphere spun in a furnace till the hole left by the detachment of the pipe flares back to a right angle to the rod, when it is put in an annealing oven with the knot or bullion left by the detachment of the rod. There are to be found in a good many existing windows specimens of this glass and their probable date of manufacture can almost be told by the relative clearness of the glass. As furnaces were built to maintain



higher temperatures, improvement is to be noted in the disappearance of devitrification, striae and blisters. These Rondels were usually of very small size, seldom being found in old work over 4 inches in diameter, and were used with practically all types of mediaeval architecture, surviving most recently, probably, in certain specialized forms of German architecture.

Splendid specimens are to be found in Fraunces' Tavern in New York, the windows of which, with other materials, were brought from the Low Countries, and it is notable that with the restoration of the Tavern a few years ago, it was possible to get again the Rondels, the time stains only being missing.

As the craft gained in knowledge the size of the bullion got larger and, helped by better chemical knowledge, the glass became clearer and clearer, until the beautiful old crown glass was made, reaching the height of its development at the end of the eighteenth century. While the bullion or scar was still upon each sheet, these were now made big enough that lights 14x16 inches, or so, could be cut outside of the bullion and the lights containing the bullion used as a matter of economy and for their decorative effect. Unquestionably the old crown glass is the finest-surfaced glass ever made. Each sheet in the "flash furnace" took a very high fire polish which was never afterwards disturbed, and while it is to-day made only for the bullions, its fine surface can still be there observed. It was the glass of our early Colonial period and can still be found in the remaining houses of the time.

Again, the modern glassmaker is producing antique glass for the glass painter with which any of the old windows can be duplicated. Down through the centuries men were learning here and there by accident and design how to produce a color in glass, all this knowledge being successively handed down until to-day almost any color asked for may be had in antique glass. In this production of color the moderns are perhaps handicapped a little by the many innovations at their command. The old glass made with "kelp" or seaweed ash as an alkali



Iridescent Rolled Pattern.

was so much softer than the modern product that the painter's stain or color seemed to sink into and become a part of the glass with an effect which it is hardly possible to get now; hundreds of beautiful tints and colors are to be had in this glass and are finding an extensive field besides being the basis of all painted work. Cut into quarry work in a tint to suit the surroundings they are very pleasing, there being enough shading in the glass to relieve the dullness of most colored glass.

Another survival of these historic



American Figured Rolled.

glasses is the "Ambitty." This is a glass in which devitrification has set in before it is blown, and the sheets are sprinkled throughout with small particles of the devitrified matter. At a short distance from the eye it resembles the modern "antique" glass in its rough texture and can be used in its stead in all decorative schemes and especially in matching a rough surface, as stucco or uncut stone.

As mentioned previously, it has become possible for the modern color maker to produce almost any desired color or tint, and all colors have of recent years been made with a clear, pure hue in sheets as large as 40 x 50 inches. While not so largely used in this era of



An English Figured Rolled Pattern.

leaded glass, they still find use in vestibule, lantern lights, signs and plating. Some colors, notably ruby and green, when blown in solid sheets, are found to be too strong in color, to overcome which it was thought best to "flash" them, that is, to produce a sheet of crystal glass coated or flashed with the color on one side only and by the thickness of the "flashing" produce any desired tint. One firm alone markets seven standard tints in flashed ruby and an infinite variety of tints for special purposes. A great number of beautiful door and partition lights are made from these glasses by etching or embossing away the color to show the

crystal glass in designs. During the last few years there have been produced a few colors in double flashes, that is, glasses coated on each side with a color, leaving a crystal center. On these glasses, by etching, it is possible to produce any combination of three colors and crystal in any degree of shading, and as it is appreciated will undoubtedly find larger application.

Another development of recent years is the "Iridescent," or "Favrile," glass, originally brought from England for decorative vases and kindred objects. It was extended to sheet glass, and is now procurable in the open market applied to various colored glasses; it attains its particular beauty when used in a dimly lighted position, as in inside vestibule doors. In a full light the iridescence becomes visible only at an acute angle.

Ground glass, made first in 1870, is used, when it is desirable to exclude all vision, and from it is made the frosted or chipped glass used in partition work and in working out designs.

While sheet glass of any color is, of course, procurable; one color little understood is black. This finds its chief use in the production of false windows, where the color stops all vision, and yet its surface, being highly glazed, gives almost a complete deception if viewed at an angle.

Another peculiar type of glass is the "sanded," usually seen in ruby and crystal, though produced in any desired color. The sanded effect is got by dusting upon the surface of the glass, while still hot, in the "flattening oven" a quantity of fine sand, which adheres to the surface, giving a peculiar antique effect. It is especially effective as a background to throw designs or letters into relief.

All the glasses thus far mentioned are blown and have the smooth fire-polished surface characteristic of blown glass. There are no very early "figured" glasses other than the bullion from crown glass until the advent of "Venetian," which seems to be at least a century old. It was made in the "muff" form before the making of sheet glass became general. The ornamentation obtained was simply a series of crude knobs and would ap-



pear to-day to be of value only as adding an apparent effect of heaviness to a small front. The Venetian, however, seems to have opened the way for the beautiful "Muffled" glass produced now for many years. This is undoubtedly one of the most useful glasses made, being obtainable in any color and of such a soft, even texture that it seems out of place in no combination, and in the case of the "Chance," or indefinite pattern, lends itself to any design.

It was noticed in a Continental factory, some years ago, that whenever water fell upon the hot glass in the blowing process and cracked it that if it was immediately reheated the cracks melted together, except on the surface where the pull of the working spread them into a sort of indefinite crackled pattern. This was elaborated upon until the whole sheet was produced bearing this pattern ("Crackled" glass). Some twenty-five years or so ago it attained a great vogue, but recently has fallen into disuse except in leaded work, where it is no particular matter if it is hard to keep the dust from lodging in the surface cracks. If exposed to the full weather it is very fragile. Its field seems now to be rather in straight glazing than in leaded lights, for its pattern, being so delightfully indefinite, can hardly be made to conform to any design. At the first production of crackled glass, workmen noticed that longitudinal markings upon the "ball" of molten glass were elaborated by the blowing process into a "flute" the full length of the sheet. This "flute" was improved upon by a mold which marked the sheet all round, producing the modern fluted glass, which it was noticed intensified the interior lighting wherever used. This led to an investigation that by various stages resulted in the modern prism glass now so generally used. When it is desired to have prismatic lighting set in designs the "fluted" glass is desirable, for the "flute" has recently been intensified, and with its smooth "fire-polished" surface gives the desired effect. Prism glass is now made with various angles of deflection, the chief concern of the architect being to get the angle that will deflect the light to the desired place. It is to

be noted, too, that prism glass can now be had as large as 36 x 80 inches.

The illuminating engineer is, of course, responsible for the development of new prism glasses, as they are demanded by the ever-changing conditions of each new problem of sun—and artificial lighting. An interesting development in the science of illumination is the lighting of the great memorial hall in the new Soldiers' and Sailors' Memorial Building in Pittsburg. In this room it was the problem of the engineer to produce an evenly diffused and colorless light in all parts of the room. The solution consists in a double deflection of the rays of powerful electric bulbs in the ceiling panels through two thicknesses of a specially designed glass which the designer calls "Deflex." The lights are thus invisible, shedding a bright and soft luminous glow over the entire room.

Passing on to the subject of rolled glass, it is to be understood that there is no rolled glass whose surface is not more or less dulled and marked by the table and rollers used in its manufacture, and that it cannot be used wherever it is necessary to secure the maximum of interior lighting. Some, taking advantage of its poor light-conducting quality, have turned this into a thing of beauty.

Possibly the oldest and best-known rolled glass is what is now known as "Cathedral," being a plain rolled glass in colors, now made usually with a "hammered" surface, this being done to cover up the usual surface defects in rolled glass. Cathedral glasses seem to have developed from the original form of rolled sheet as mechanical means of handling larger sheets became known, until in its present form it is usually made in sheets 90 inches or so long. Most of the present American factories make Cathedral with a "hammered" back, though this does not prevail in Europe, the Germans, particularly, turning out a glass with a smooth surface, as do also the Scotch, whose colors also are of a pleasing texture. The American factories have recently been making smooth-faced Cathedral, but so far the surface has been scratched badly and is very far from being up to the standard

of the imported. The English double-rolled Cathedral, which is rolled with an extra roller while still plastic, is well known and much liked. Contrary to expectations, the double rolling seems to produce a smoother surface, supposedly, by preventing buckling, and also seems to produce greater density of texture. In skylight work it takes the glare out of the sunlight, letting through a very full, softly tinted light.

Rough plate glass in crystal finds a variety of uses in sidewalk lights and skylights, it being procurable in all thickness from  $\frac{1}{8}$  inch to 1 inch, and with plain or ribbed surface. Ribbed plate was the first attempt to roll glass with other than a smooth surface, but from this has grown a large class of glasses for various uses and in endless designs or patterns, such as the well-known "Florentine," "Colonial" and "Maze"; in this class of goods the Danes seem to excel, closely followed by the English. The principal application of these glasses is in partition work or workroom windows, and with so many designs to choose from it is generally possible to get a glass that will be in harmony with the room and its surroundings.

From the making of Cathedral glass in plain colors, the next development was the mixing of two colors, and finally three or even more in the sheet. In doing this, it was found that the introduction of an opal glass brought the other colors into relief and thus gave rise to the Opal Cathedral glass, so largely used a few years ago and still used where colored glass of this type is wanted in large lights. It can be furnished up to 30 x 90 inches in size, and in a variety and combination of colors, and is also rolled, if desired, with the rippled or Etruscan backs, thus adding to its beauty and usefulness. Opal glass is rolled also in all thicknesses, and is used for covering walls wherever absolute cleanliness is desired, and for such uses as icebox linings, bathroom tiling, shelves, clock faces and, of course, plate glass any thickness is made of it in any color, but its uses are limited.

An interesting and peculiarly American development is wire-glass, first

produced at Tacony, Pa., in the early seventies. While its merit was quickly recognized, its manufacture presented so many difficulties that its first makers were glad to abandon it to others. Its manufacture was soon after revived under the Schmertz patents at Brownsville, Pa., with more success, though this plant also has disappeared, and the site is now traversed by the Pittsburg & Lake Erie Railroad tracks. Subsequently, a French company, which managed to procure American patents to make wire-glass, established a plant at Port Alleghany, Pa., in 1895, and this was operated successfully and merged with the companies owning other patents for making the same glass. Its merits were so apparent that it found instant favor in its special field as a fire retardant, until now its consumption is measured in millions of feet annually. Its uses are, of course, thoroughly understood, but it is only recently that it has been polished, and also now rolled with a pattern upon its face, rather obscuring the wire and adding to its decorative effect.

Inventors are now at work trying to make wire-glass from the molten mass without first casting it upon a table. If this becomes a reality, the cheapness of the process will make the application of unlimited wire glass in building construction.

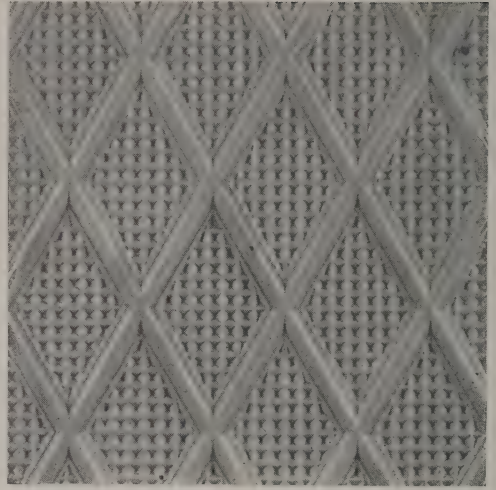
Recently there has been placed upon the market by an American firm a line of fire-polished plates, that is, plate glass which is polished by the usual process upon one side, the other side being subjected to the fire of a series of gas jets while the plate is issuing from the rollers and subsequently. The result is a finish little inferior to fully polished plate, and very good indeed, by reason of its absolutely impervious surface, for hospital slabs and sanitary purposes. Rolled into patterns, illustrated herewith, it is finding a wide application in straight glazing when ordinary plate glass is considered too expensive.

From time to time there has been discussion concerning the use of glass bricks in building construction. A few years ago a factory was equipped at



Bellaire, Ohio, to produce such bricks, but architects refused to take to the material on account of its higher first cost than clay, the heavy losses in transportation through breakage, and its tendency to craze or chip off on the surface. It was urged in favor of glass bricks that they could be produced in any color, and that, being hollow, they insulated buildings against extremes of temperature.

Pressed glass has been very little used in glazing, its most frequent applications being for jewels, plaques and in leaded combinations, the one exception being railway car deck-lights. For this purpose, being made and annealed in one piece to fit the size of the opening, its generous thickness successfully withstands shock under which ordinary glasses will break. In this connection, quite the most interesting recent development in glass-making is the production by an American firm of "Design Glass," similar to the illustration marked



"Imperial Design."

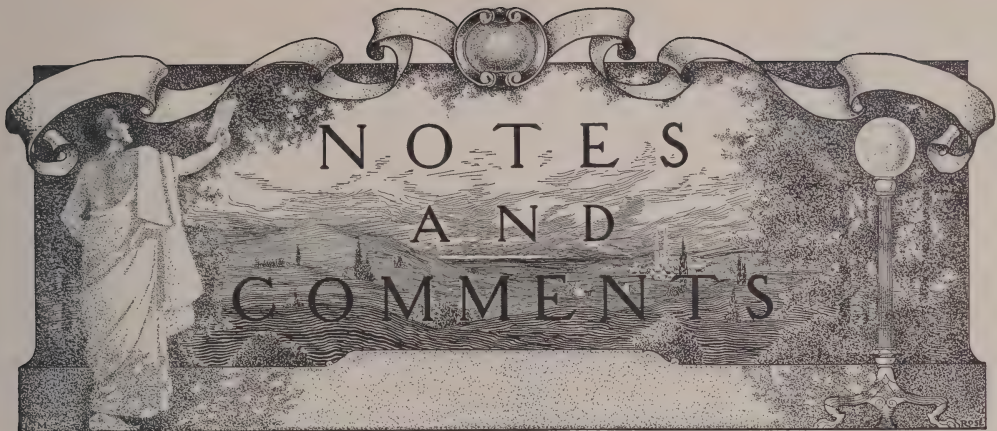
"Imperial Design." Made first about two years or so ago, for decorative windows in Pullman cars, it opens an interesting field. Being pressed and annealed in one piece, it resists shock and can be readily cleaned, as there are no lead seams to catch dirt. It would seem especially applicable wherever a large number of lights of similar size and design can be used in a building, as in light walls and elevator shafts.

Of infinite use and variety is the American development of "Opalescent" glass, made first thirty-five years ago at the suggestion of Mr. John La Farge. Its use has grown until to-day there are seven American factories alone producing it, and while mostly for domestic consumption, large quantities are exported to all glass-using countries of the globe, for here, at least, America leads in glass. With several chemists and practical glass men working out the color problems, almost every conceivable shade and color combination of colors has been produced. Opalescent glass is, of course, primarily for the lead glazier, though it often finds its place in straight glazing.



Pressed Design for Window.

*Edgar H. Bostock.*



### THE NEW NEW YORK COURT HOUSE

A daily newspaper has something to say about what it calls the "appalling" architectural difficulty of the problem imposed by the new or rather the revived project of building the new New York Court House in City Hall Park. Of course there is no way of preventing an architect from being appalled by that or any other problem which may come to him in the course of the day's work. But one fails to see any occasion for panic. The problem has no undue complications.

Every patriotic New Yorker ought to be glad, at least, to see an end made of what for a full generation has been known as the "new" Court House. Architecturally, it is an incubus. Morally, it is a reminder of deep civic disgrace. When Leopold Eidlitz made his addition to it some twenty years after the original building, it is quite possible that he meant to point a moral by contrasting the reality and honesty of the new work with the pretentious sham of the old. At any rate he did point it, though the point has as much as possible been blunted by smearing over the honest brickwork of his interior with disguising paint. Fortunately, it was impossible thus to efface the stonework of the Surrogate's Court, which, by the way, was not designed for a court room at all. In any case the new work is all of any architectural value that there is in the disgraceful old pile. By all means let the old thing go, even if its going carries with it the real loss of the newer work of a different inspiration.

All the same, one has to admit that the problem has its complications, though they are calculated to "appal" the official authorities rather than the architect, and though they really ought not to appal anybody. The

Hall of Records, on the other side of Chambers Street, is rather a melancholy object, in its present estate and environment, highly respectable as it is in itself. When the design of it was awarded to the late J. R. Thomas, that architect gleefully remarked that the award "meant ten million dollars' worth of work." It did seem so. What the architect meant, of course, was that this beginning involved three buildings, extending from Elm Street to Broadway on the north side of Chambers Street, the Broadway end of the row being the counterpart of the first building, and the middle building predominant over both. No instructed person can look at the Hall of Records as it is without perceiving that it was designed as a "wing" of an architectural composition. A very impressive composition it might have become, comparable to those façades of Gabriel on the Place de la Concorde. That was the handsome thing for the city to do, to fill this block-front with monumental structures, to be well seen from the ample foreground of City Hall Park, when the unsightly old "new" Court House had once been demolished. The municipality ought to have afforded the great expense of acquiring the Stewart property and the intermediate land.

Since the city did not see its way to doing that, the present project is perhaps the next best thing. A fringe of municipal building along the south instead of the preferable north side of Chambers Street. But here come in the complications. Every owner and improver of realty in that immediate neighborhood has relied upon the city's keeping open City Hall Park. Quite true, the park is not the useful "lung" it was in the time of our grandfathers. It is not even what it was before Mr. Mullett, early in the seventies, was permitted to gobble the lower end of it for the post office. But the riparian



owners who have bought and built, upon the faith of the park's being kept open as a park, and have recognized that advantage in the price they paid, are entitled to equitable consideration. They have something like a moral "vested interest." The city cannot really, with decency, occupy the north end of the park with skyscrapers. The Broadway Chambers would probably be most injured by such a course. But many owners would be injured and would have an equitable grievance. Only fancy what a fluttering there would be in the realty dovescotes further down Broadway if Trinity Church were to announce its intention of removing Trinity and St. Paul's uptown, and opening the churchyards to secular "improvement." Yet in that case nobody would have a tangible grievance. The builders who have taken advantage of the air and light of the churchyards have made no compensation to the owners of those enclosures. They would have nothing to say, excepting that they had taken a chance which had gone against them. But the case is rather different when the city itself is the owner of property the "ancient lights" of which it proposes to shut up.

This is the main complication of the design of the new Court House. The building ought, in the interest of what is left of the park, to be as narrow a fringe as possible along its northern boundary. It ought also, in justice to the equitable claims of riparian owners, be kept as low as possible. It is by no means a case for skyscraping. The moderate height, say, of the Hall of Records ought not to be exceeded by the buildings opposite to it on the south side of Chambers Street. Nevertheless, and in spite of these two moral restrictions, the courts could without question be accommodated on that front without violating the restrictions. A comparatively low and comparatively narrow fringe of building along the north side of the park would be ample. If any architect is "appalled" by the prospect of designing such buildings, he ought to be excused, and his place taken by another who does not go in equal terror of a rare professional opportunity.

AN  
APPRECIATED  
ARCHI-  
TECTURAL  
EXHIBITION

In connection with the exhibition conducted by the Architectural League of the Pacific Coast this winter in Los Angeles there were several features of general interest apart from the mere fact of its size. And with its eleven or twelve hundred drawings it was

the largest architectural exhibition that California has had. The opening was attended by some fifteen hundred invited guests, and throughout the attendance was very large—about 27,000, it is said. Admission was free, and the superintendent of the city schools sent a circular letter to the principals, requesting them to urge the pupils in the older classes to attend. But there were two special attractions: A large collection of city-etchings by Joseph Pennell, and the Blasfield collection of mural decoration exhibits which has been *en tour* in the West. Later, the Pennell etchings and some of the Blasfield collection were loaned to the High School, for its exhibition of pupils' art work. Altogether Los Angeles, and incidentally much of the Pacific coast, had, through the exhibition of the Architectural League, an artistic spree, the full delight of which cannot be readily appreciated in the East where such opportunities are not so rare; and the movement to bring the A. I. A. to the coast in convention received locally a strong impetus.

PUBLIC USE  
OF  
HISTORIC  
MANSIONS

Architectural discussion in Princeton during the winter has not had to do only with the proper site for the graduate school—though it was interestingly vigorous enough

on that point; but it has found a fascinating subject in the town's new Borough hall and Thompson hall. These are a legacy to the community from Mrs. Josephine A. Thompson-Swann. Thompson hall, a historic mansion was given in trust to a self-perpetuating body that is to permit its use for public meetings and other civic purposes, to which end the former drawing room and dining room have been converted into an auditorium; and Borough hall, a stone structure, formerly the stable of the mansion, now made to face the street, remodeled and made suitable in aspect and convenience for town-office use without sacrifice of its Colonial virtues. This is an interesting civic development, finding parallel in the city hall of Yonkers and doubtless in a few other places. In Des Moines a historic old house, the Sherman mansion, has been turned over by the city to the woman's club—certainly a unique procedure; but, unfortunately, whatever its local historic associations, the structure itself is a relic of American architecture's saddest period, the black walnut days. As in the case, however, of the Princeton mansion, it is surrounded by considerable grounds which become a park.

### NATIONAL CONFERENCE ON CITY PLANNING

Such was the success of the National Conference on City Planning and Congestion which was held last May in Washington, that a committee was there appointed to arrange for another conference this year. The committee has been working quietly on the project for a good while and has now issued a call for the Second National Conference, to be held in Rochester, N. Y., for two days, beginning April 4th. The hosts will be the Rochester Civic Improvement Committee and the Chamber of Commerce. The program committee, realizing that it would be folly to attempt to cover the whole vast subject of city planning in a two-day conference, has wisely selected a single phase of the subject for each of the six regular sessions, and this phase will be discussed by the leading authorities, to the end that the Conference may make a distinct and valuable contribution to those aspects of the subject which it touches. Opportunity will be given also for open discussion. The subjects selected are: The Problem of Congestion, its causes and some solutions; The Movement of Passengers and Freight in its relation to city planning; Street System Problems; and finally Methods of Procedure, to secure the carrying out of city plans when they are made. The Conference is open to all who care to attend, and the acceptances already received indicate a very impressive gathering.

### BILL FOR A STATE ART COMMISSION

Under the chaperonage of Walter Gilman Page, a bill has been presented this winter to the Massachusetts legislature providing for the establishing of a State Art Commission. This is not the first time that there has been an attempt in Massachusetts to secure legislation of the kind, but the futility of the former efforts only makes the present the more interesting, for there naturally has been endeavor to avoid the mistakes of the past and profit by its experience. Also, there is evidenced the persistency of the desire. The bill extends to the State the principle of a municipal art commission. The members are to be appointed by the governor, by and with the consent of the Council, and are to serve without compensation. They are to be five in number, and

an interesting innovation of the bill is that it does not specify the professional avocations of the appointees, leaving that to the discretion of the appointing power. It has been held that a serious practical objection to requiring that an architect, a painter, a sculptor, etc., shall be appointed, is that membership in the commission bars the member from taking part in competitions for State work and from accepting opportunities for artistic work for the State. By the terms of the bill, the commission would, on request, "act in an advisory capacity" relative to works of art acquired in any way by the Commonwealth, and relative to any building erected or remodeled by the Commonwealth, the term building including, by statement in the bill, "bridges, arches, gates, walls or other permanent structures of any character," as well as structures for human habitation and use. The bill explicitly states that the Metropolitan Park Commission, which is State-created, shall have the right to refer questions to the State Art Commission.

### A LOOK BACK

In a reference the other day to a back issue of *The Architectural Record*, the eye was attracted by the beginning of a certain article other than the one sought. The article opened with these words: "There has appeared in the last three or four years a new and exceedingly interesting municipal movement. Its results, which seem very promising, will be watched with the keenest regard. There never has been anything exactly like it before, and its recent rapid spread suggests that its development is destined to go far." The issue was that of May, 1905,—not so very long ago as to excuse forgetfulness of the movement—and yet what could it have been, that then seemed so important and promising? The next paragraph explained. "Reference is made to the matter of securing expert plans for the physical improvement of cities;" and the article, proceeding, told of the work of this kind which had been done in eight cities in this country and in Canada. So it is not the movement, but its novelty, that has been forgotten. So firmly has it now been established, that one does not associate it with anything that was considered only five years ago as new and experimental; it seems already to belong with the things that are old and tried. And yet, it is only ten years



ago that the American Institute of Architects, meeting in Washington, passed those resolutions that prepared the way for the appointment, months later, of the experts who were to plan for the development of the capital city. The town-planning history has been making fast.

**INJUSTICE  
OF  
OFF-HAND  
CRITICISM**

As propriety requires that the pot should not call attention to the blackness of the kettle, so a seldom broken rule of journalistic etiquette restrains the expression of any difference of opinion between the departments of a newspaper. But so well bred a paper as the Boston "Transcript" has been led to violate the rule by the much discussed monument to Phillips Brooks. The column of the Clerk of the Day had ventured to make fun of the monument, and the urbane Listener, with his broader culture and gentler nature, takes him to task for it, calls him "incorrigible"—which is black, indeed; and says: "One can imagine that the shades of St. Gaudens and McKim—if artists soon after death revisit the earth to contemplate their works from their new point of view—would be a little startled to receive the whacks of a slap-stick, and this under the eaves of Trinity. 'Can't they bear in mind the Shaw monument?' McKim might comfortingly murmur to his companion; and St. Gaudens might answer in kind, 'Couldn't you be trusted to make a little thing like this? Didn't you head Richardson's young men in the building of Trinity itself, and didn't you build the Public Library?' " Then he imagines the shades leaping in New York—to New York from Boston!—to gaze with equanimity on the Farragut, with his sea-braced legs, and on the gay Diana-topped tower. But further on, and seriously, the Listener protests, and well, against the "off-hand journalistic criticism which would dispose, at sight, of a labor of seventeen years by one of the greatest sculptors of modern times." St. Gaudens, he notes, gave the best part of his mature life and of his triumphantly productive period to the modeling and remodeling of this monument; and adds: "As for the canopy, it is not possible that Mr. McKim, whose name is a synonym for the highest ideals and the best in art and architecture, has crowned his career with an architectural solecism." The protest closes with an extract from an editorial from the Architec-

tural Review in which, in evidence of McKim's painstaking with detail, Bates Hall in the Boston Public Library is described as "unique among impressive monumental American interiors."

**NEWS ITEMS  
FROM  
ROME**

There is rather more than the usual promise of the interesting and unusual in the plans announced for the Exposition with which Rome is preparing to celebrate in 1911 the fiftieth anniversary of the proclamation of Italian unity, and her own rise to the dignity of a national capital. A brilliant committee has been created to take charge of the commemoration. The president is Count di San Martino, a patron of art, music and the drama; and one of the vice-presidents is the sculptor, Ferrari. Vittorio Pica, the art critic, is head of the fine arts section, which has an appropriation of \$40,000 for prizes and of \$100,000 for the purchase of exhibited art works. A writer in *Le Figaro* says of the exposition plans: "Behind the Pincio, on land lying between the Villa Borghese and the Villa Giulia, a magnificent palazzo is being built from plans by Cesare Bazzari. Around it are to be grouped the pavilions of the foreign countries. This fine group will shelter the exposition and will eventually become the modern museum of the Eternal City. As for architecture, generally so inadequately provided for on occasions of this sort, the committee has proposed two competitions. One is international, with three prizes—\$30,000, \$20,000, and \$10,000—for the erection of completely equipped houses 'giving an exact and complete idea of the last thirty years' efforts in various countries to create, in the spirit of modern feeling, types of houses corresponding to the aesthetic aspirations and special requirements of the different people of our time as regards domestic architecture.' The other, a national competition, offers three awards of \$20,000 each, one-fourth to the architect and three-fourths to the builder, 'for the creation of three types of modern houses, corresponding to the habits and living conditions of different social classes.' Novel points of view, *n'est-ce pas?*" Another architectural feature, also of more interest than harmony, is to be a series of pavilions near the Tiber, representing the provinces of Italy by a reproduction of the type of building characteristic of each. Thus a house from the Abruzzi

country may be cheek by jowl to a Genoese palace, and a Sicilian house to a fisherman's cottage from the Adriatic's shore. As to the street changes and widenings that are taking place, in urban preparation for the exposition, there is the usual criticism that Rome is being unduly modernized. A correspondent of *Le Temps* writes very bitterly on the subject. He speaks of it as the wave of destruction sweeping over the city, as a devastating cyclone that has burst upon Rome, as an invasion of architects and engineers to be likened to that of the barbarians. But when one comes to his concrete descriptions, the fault seems to be mainly in the scale of the new private construction which is going on. With the increased height of modern building, this is of course inevitable, if municipal building ordinances do not protect the piazzas and squares that were proportioned to the low structures of an earlier day. He speaks of the Piazza Barberini, where the white plume of the fountain has nodded so grandly. Now the broad Via del Tritone, which starts from it, is flanked with heavy seven-story houses that "offer all modern conveniences" and overwhelm "the fine aigrette." So in the Piazza Colonna, the little pink fountain and the little column of Marcus Aurelius are to have as background a monster building containing theaters, concert halls and moving picture shows. This is all horrible; but surely the fault is not with the widenings which are bringing other streets and squares into scale with modern buildings.

#### THE WORK ON WINCHESTER

A long article in *London Truth*, on the work of saving Winchester Cathedral, tells its story with such interest that one finds it most difficult to condense the account into a paragraph. And it is the more interesting because American money is paying in part for the improvement, subscriptions having been solicited in this country as well as in England some four or five years ago, when the work was undertaken. It seems that the Norman builders who, at the beginning of the twelfth century, laid the foundations of the cathedral's oldest portions, found a bed of peat about ten feet below the surface. Accordingly they laid trunks of trees on the peat, covering them with chalk and rubble, and built their walls on that. Nearly three hundred years later, when William of Wykeham reconstructed the nave, he tried to improve the situation by driving timber

piles into the peat. This was all right, except that the piles were too short to reach the solid bed of gravel below. They have not rotted, but in the four hundred years they have been slowly sinking deeper into the peat, under their enormous load, and finally the moment came when the walls got so much out of perpendicular that, in spite of the excellence of mortar and masonry, they began to crack and the vaulting of the roof began to fall. Expert examination then showed that there was not even a day to spare. "Crutches" were immediately constructed, and the work of underpinning the foundations commenced. The bed of peat was found to underlie an underground water-course or lake, and the trenches at once filled with water to its level. In order to get foundation to the underlying gravel, it was necessary to employ an ocean diver, and for five years this man has been doing the work single handed below the surface. He gets the peat and old timber from under the walls and then lays concrete upto the water level. Then the masons build up from the concrete to the old walls. Though the diver goes down only eight or ten feet, he has to do the whole of his work in the dark, guided only by his hands. He works six hours a day, in two or three hour shifts. The buttresses were found to be standing on soft peat which was absolutely incapable of supporting them, so that they practically hung to the walls, instead of supporting them—a pretty good proof of the cohesiveness of the masonry. Half a buttress is underpinned at a time, the weight being carried meanwhile on timbers. When the piers of masonry have been constructed under the buttresses, arches are built from one to the other to carry the intervening length of wall. The underpinning is now practically completed around the east end of the church and the transepts; the fissures in the walls have been filled with cement, and the vaulting has been reset where necessary. "No attempt has been made to restore the walls to the perpendicular, but the north and south walls have here and there been braced together by steel rods. The lofty south wall of the south transept is said to be nearly five feet out of the perpendicular, but the lean is not perceptible to the eye, and owing to the thickness of the wall its stability is not impaired when further movement is stopped, as it now is. The professional men are of opinion that when the whole work is completed, the church will be more secure than it has ever been." It is stated that the work has thus far cost £75,000 and that at least £25,000 more will be required. At present the funds are about exhausted.



**EXHIBITION OF  
DOMESTIC  
ARCHI-  
TECTURE IN  
PHILADELPHIA**

The T Square Club of Philadelphia, although fully appreciating the beneficial effect upon architects of frequent exchange of ideas, such as architectural exhibitions afford, feel that for this season their exhibition should be made of greater interest and benefit to the general public. Hitherto it has been the custom, in arranging architectural exhibitions, to include a large amount of material in which the laity had little or no interest, although it was, undoubtedly, of value in professional eyes. The coming exhibition will, instead, be one of domestic architecture only, as there are but few people to whom the subject of houses does not make a very potent appeal, this being perhaps especially true of country and suburban homes. It is aimed to have the exhibition thoroughly representative of the best in American domestic architecture, and, to make it a success, the hearty co-operation of architects who have made a special study of the various problems involved is, of course, essential.

**SEATTLE  
ARCHITECTURAL CLUB  
EXHIBITION**

The Seattle Architectural Club is planning to hold the Exhibition of the Architectural League of the Pacific Coast in Seattle, April 16-30. The gallery of the Washington State Art Association in the Public Library Building and a good portion of the second floor of the library itself will be used to house the large collection of drawings to be exhibited. The work is representative of over seventy-five architects in the Eastern and Pacific Coast cities. Of course, the largest part of the exhibition will be the work of the local offices.

This is the third of the four annual exhibitions planned by the League. The first was held in San Francisco in October, the second in Los Angeles the end of January, and the fourth will be in Portland early in June.

**THE  
NEW SOUTH**

The recent publication of considerable current work in the cities of the Southern States calls attention to the fact that the investment of Eastern and Western capital in that territory has been accompanied by a desire to house the people and industries in better constructed buildings, designed by architects in good standing, who are showing considerable skill in handling their problems. The architectural and technological schools of New York, Boston and the East have of recent years attracted many students from the South, and these graduates, after foreign travel and a practical schooling in the offices of older practitioners, have returned to their native land equipped to do excellent work. Add to this list capable men from New York, Chicago and Boston who have taken up practice in the South, locating there permanently, and there has been formed a group of men capable of exerting much beneficial influence in that territory. Many of the best and most interesting examples of our Colonial period still exist there in a good state of preservation, so that the term "awakening" is used advisedly with due credit to Thomas Jefferson and those of his time who introduced the Classical adaptation. The ravages of the rebellion and subsequent disorder played havoc with architecture as well as with nearly everything else in the South, and it is not until of very recent years that an "awakening" of business can be said to have taken place. The late H. H. Richardson, though a native of New Orleans, found but little encouragement for his activities in any of the Southern cities. The hotels in Florida, the more recent colleges, schools and churches, and most recently the office buildings and residences, have, however, opened a new era of development in Dixie.

On page 272 of the March issue the design of the Portland City Hall is erroneously credited to Carrère & Hastings and Calvin & Stevens as associated architects. The credit should read: Carrère & Hastings, John Calvin Stevens, John Howard Stevens, Associated Architects.



# ' THE ' ARCHITEC TVRAL RECORD



## · CONTENTS ·

	PAGE.
The Work of N. Le Brun & Sons. ....(Illustrated)	365
Montgomery Schuyler	
A Fifth Avenue Mansion.....(Illustrated)	383
The Wild Men of Paris.....(Illustrated)	401
Gelett Burgess	
The Evolution of Architectural Ornament—III..(Illustrated)	415
G. A. T. Middleton, A. R. I. B. A.	
Notes and Comments.....(Illustrated)	433
A. I. A. Circular of Advice Relative to Competitions—The Crown of the Sky-scraper—Bill for Harmonious Streets—Bill for National Fine Arts Commission—Dinner to Brooklyn Architects—The New Palace, Tokio—A Letter to Touch—New York in Provincial Eyes—Architects Propose Medals for Clients—Masonic Homes Competition—Architectural Tribulations,	

PUBLISHED BY

### THE ARCHITECTURAL RECORD COMPANY

President, CLINTON W. SWEET  
 Vice-Pres. & } H. W. DESMOND  
 Genl. Mgr., }

Treasurer, F. W. DODGE  
 Secretary, F. T. MILLER

11-15 East Twenty-fourth Street, Manhattan

Telephone, 4430 Madison Square

Subscription (Yearly) \$3.00

Published Monthly

Copyright, 1910, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879





METROPOLITAN LIFE INSURANCE BUILDING (1889-1909).  
Madison Ave. and 23d St., New York. N. LeBrun & Sons, Architects.



## The Work of N. Le Brun & Sons

Last January there was a celebration in New York, so far as I know, unprecedented and unique. It was the celebration by a commercial institution of the completion of its great building. True, there are plenty of precedents for that. Even in Biblical days men "brought forth their headstone with shoutings." In these advertising days the shoutings might be expected to be louder than ever, especially if there were a chance of the echoes of them resounding in the morning papers. Yet, in fact, from the celebration of the Metropolitan Life over the completion of its building the element of "réclame," if not altogether absent, was tastefully subdued. It was more like a family party arranged for the mutual congratulations of co-workers in a common enterprise upon its success than like a "function" contrived by its Department of Promotion and Publicity. What made it unique was that it was also specifically a compliment to the architects of the great building in question, who were the guests of honor of the occasion. One searches his memory in vain for a precedent for that. The notion of such a celebration would never enter the exclusively commercial mind. On the contrary, strictly commercially minded owners have been known, when

their architects had made for them a signal success, to divide their energies between bragging about the building and denouncing the architect and endeavoring to prevent him from getting other jobs. To make the completion of a commercial building the celebration of its architect is a notion that would not enter a mind which had no room for anything but "business." So the banquet of honor to Messrs. N. Le Brun & Sons was, one may say, equally creditable to both parties.

The occasion was not only to signalize the completion of the tallest and one of the largest office buildings in America, far taller, therefore, than any such edifice in any other country, and very notable anywhere by its magnitude in other dimensions than altitude. For in no capital can an edifice of an area of twenty-five acres be other than very much out of the common. It signalized also the retirement from the practice of their profession of the architects who have lived with the building, so to say, since the beginning of the nucleus on Madison Avenue, almost twenty years ago. In respect to professional, if not popular, appreciation, this was most fortunate. One may say of withdrawal from the activities of a competitive profession what



Bacon says of death, that it "openeth the gate to good fame, and extinguisheth envy." No doubt the New York Chapter of the American Institute of Architects would equally have bestowed their gold medal for 1910, for the most noteworthy and creditable local work of the year, upon Messrs. Le Brun, if the architects were to continue competitors. But it were asking too much of merely human architects to expect that they would have bestowed their honor as ungrudgingly in that case as in the actual case in which the architects have declared themselves "hors concours." It is this same circumstance that invites and enables the present little appreciation.

It is to be remarked that the architectural work now concluded has been carried on, through father and sons, for all but seventy years. It was in 1841 that Napoleon Le Brun, born in Philadelphia in 1821, began practice for himself in that city, and continued it for a quarter of a century before his removal to New York in 1868, to practice there for another quarter of a century. It is to be remarked also that the work of the firm has directly continued, for more than a century, the longest and most respectable of American architectural traditions. This it has done by the succession of master and pupil. For Benjamin H. Latrobe, who had migrated from England in 1796, became architect of the Capitol (Surveyor of the Public Buildings) by Jefferson's appointment, in 1803, and undoubtedly left a stronger impress of his individuality on the original building than was left by any other architect, excepting Dr. Thornton, the original designer. William Strickland, afterwards the leading architect of Philadelphia, was a draughtsman and pupil in Latrobe's office. Thomas U. Walter, the architect of the Capitol Extension in the fifties, sustained the same relation to Strickland, and Napoleon Le Brun, in his turn, to Walter. His professional equipment was thus as complete as that of any native and untravelled American could be in 1841. It is not fanciful to say that the influence of the excellent tradition the firm thus inherited is to be traced in the work, both of father and sons.

One can almost say that nothing in the

elder Le Brun's professional career in Philadelphia "became him like the leaving it." He had done noteworthy work in the Quaker City. The Philadelphia Academy of Music was completed in 1854, some years, I think, before the completion of the New York building of the same name on Fourteenth Street, and when neither city could have "stood for any avowed "opera house." The Philadelphia example is architecturally made more of and is a more creditable performance than the Manhattanese. But Mr. Le Brun's last work in Philadelphia, completed in the year in which he left for New York, was by far the most elaborate and "important" of his works up to that time. That is the interior of the cathedral of SS. Peter & Paul. There were very few churches in the United States forty years ago, comparable to this in magnitude and costliness, and of those few, none was of the same communion and none of the same style. The Gothic St. Patrick's, in New York, was still far in the future when the Renaissance dome of the Philadelphian cathedral stood complete and challenged the wondering admiration of cis-Atlantic mankind. In fact, it was worthy to excite that emotion. There was nothing in sacred architecture, if one may apply the adjective to the very mundane pomps and vanities of the Italian Renaissance, on this side of the ocean, to be compared with it. It was the first specimen, executed on a scale which gave it a fair chance to make the impression of the style, of the domical, as distinguished from the basilican type of ultramontane churches. Means were wanting, indeed to supply the sumptuousities and preciosities of material which belonged to the prototypes, and for which a plastered interior cannot be an effective substitute. But in scale, with its forty-foot pilasters and its interior height of some hundred and fifty feet, it worthily exemplified the school of Bramante, though, in fact, it seems to have been a compilation from the works of other artists than Bramante. The Madonna di Carignano, at Genoa, may have furnished a suggestion for the section and San Andrea at Mantua for the ground plan. But the great St.

Peter's itself seems to have been most exactly the prototype of the American reduction and reproduction. The "bishop" for whom it was built "might have ordered his tomb" under its deeply coffered ceilings with as much propriety as, according to Browning, his predecessor did under those of "St. Praxad's." As it had

no predecessor, so it has scarcely had any American successor in the same style and kind. Its uniqueness is very likely not to be regretted. At the same time whoever has seen it, or whoever even consider the illustrations of it, will agree that it was very well worth doing, once, if only for the purpose of giving untrav-



CATHEDRAL OF SS. PETER AND PAUL (1846-1864).

Philadelphia.

N. Le Brun &amp; Sons, Architects.





CHURCH OF THE EPIPHANY (1870).

2d Ave. near 21st St., New York.

N. Le Brun &amp; Sons, Architects.

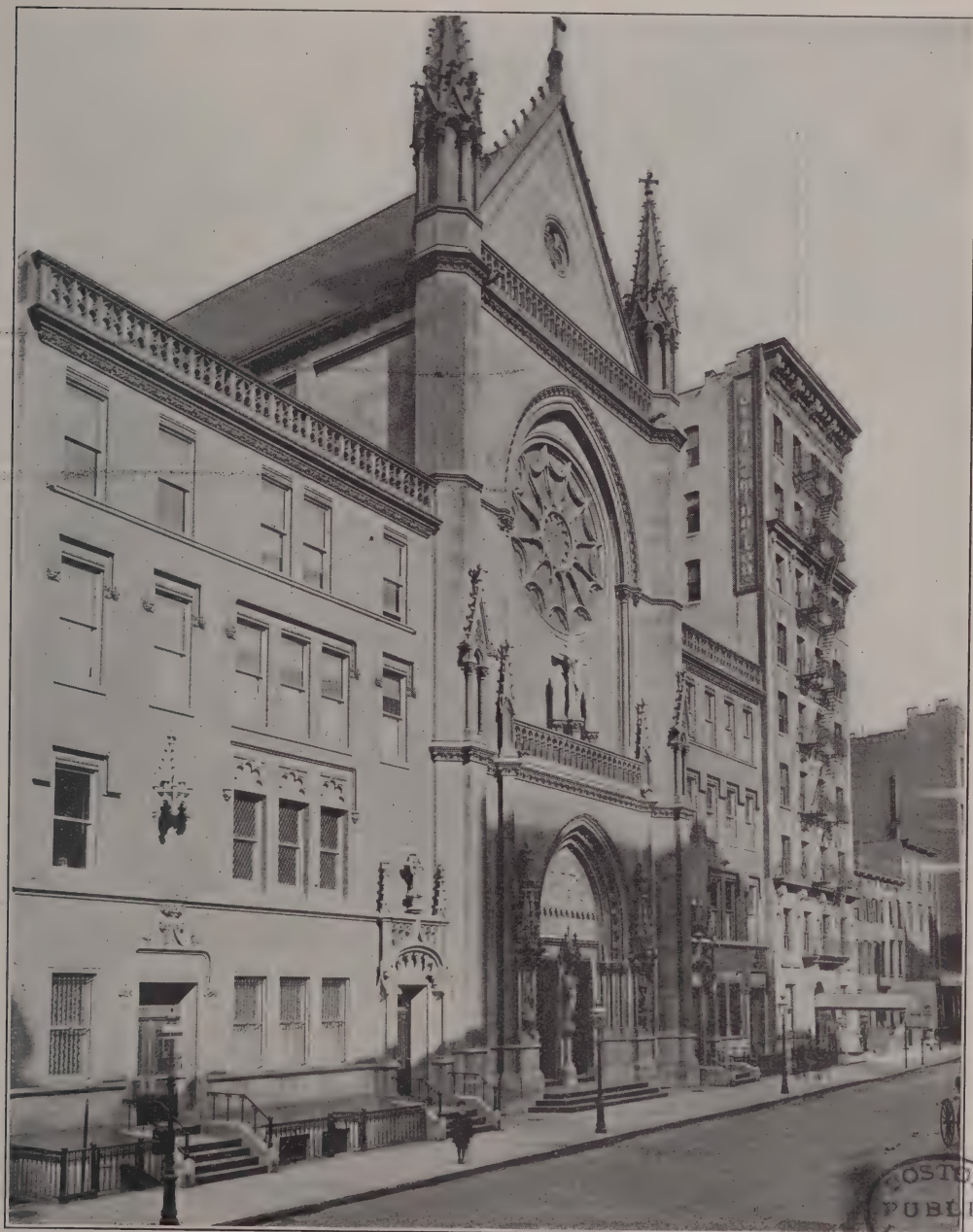
elled Americans the opportunity of appreciating an otherwise inappreciable architectural expression.

Its author did nothing more in that kind. In New York his essays and those of his firm in church building were limited to what most of us consider the only ecclesiastical styles, the Romanesque and the Gothic. Of the Italian Romanesque

there is an interesting specimen in the church of the Epiphany in Second Avenue, a specimen not less interesting for being, in its main motive, a reproduction of that church of San Zeno, in Verona, which Ruskin calls a "perfect example of the great twelfth-century Lombardic architecture, which was the root of all the mediaeval art of Italy," and which

Street calls "one of the noblest examples of a very noble type of church." It is a reproduction with variations, with a triple instead of a single portal, and with the addition of a congruous campanile alongside. In the latter, in French

Gothic, there is the church of St. Mary the Virgin, in West Forty-sixth Street, a very unusual opportunity, the success of which one cannot acclaim. One cannot acclaim it, that is, as an exterior; for the interior, it may influence by dint of the



ST. MARY THE VIRGIN (1895).

West 46th St., New York.

N. Le Brun &amp; Sons, Architects.





THE NAVE, ST. MARY THE VIRGIN.

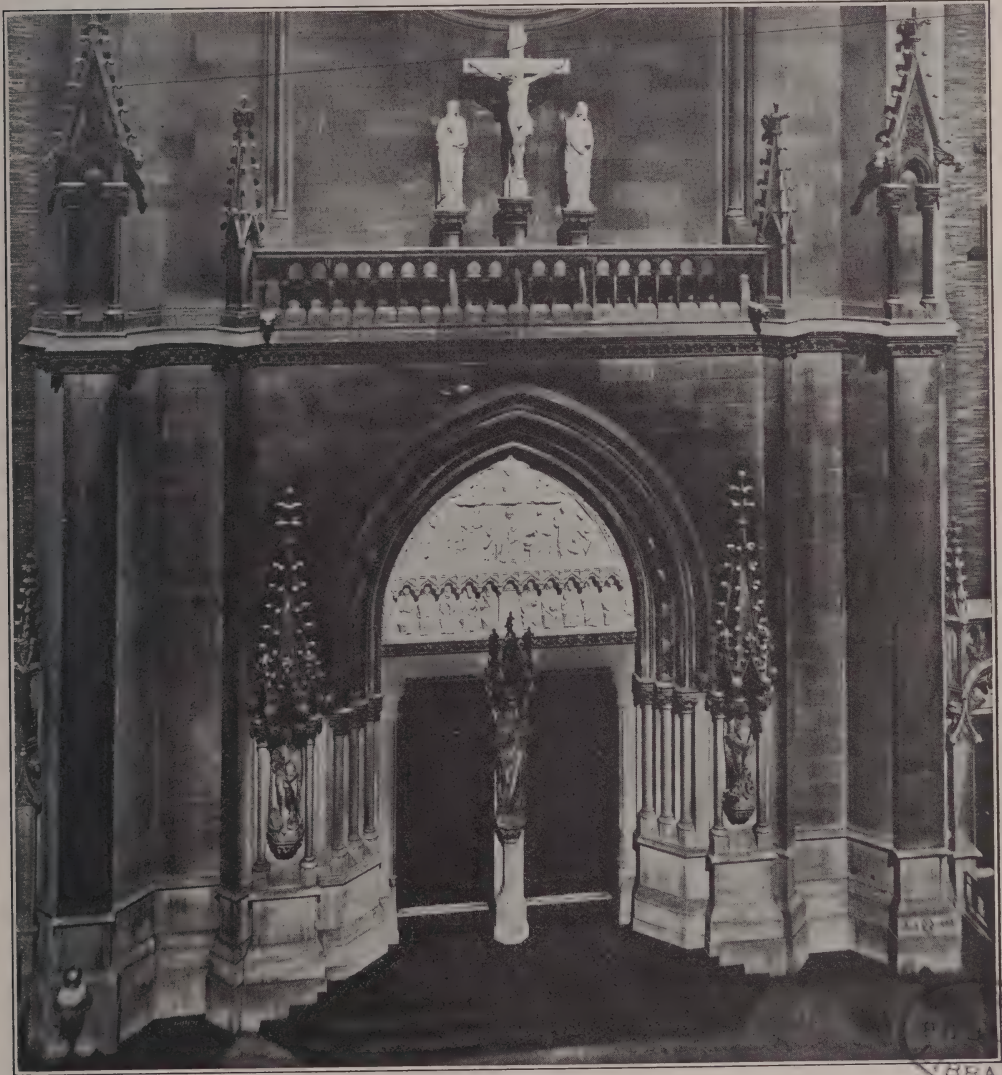
West 46th St., New York.

N. Le Brun &amp; Sons, Architects.



unusual length, and the impressiveness of a Gothic nave increased in a geometrical ratio with its length. But in the exterior, its length was not utilized to the full. This was the church which, while it was under construction, was

omical advantage. What one means by saying that an unusual opportunity was missed is that both the depth and the frontage are very much greater than most church architects ever have a chance to fill. A whole block in depth is more



ENTRANCE DETAIL—ST. MARY THE VIRGIN.

West 46th St., New York.

N. Le Brun & Sons, Architects.

called "the Chicago church," since the steel skeleton was employed in the interior. The interior does not strike the beholder, all the same, as more attenuated than would be possible in masonry, though doubtless the metal has an econ-

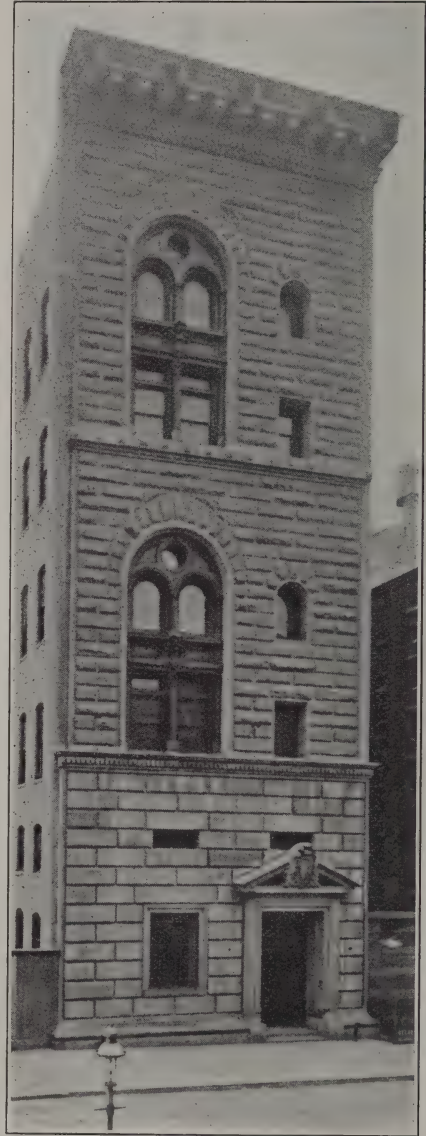
than most congregations can afford. In this case we not only have that, with its opportunities in the way of a "long drawn aisle." There is also on each street, at least on the street of the main front, a flanking space of generous width avail-



able for the minor purposes of a "parochial plant," and sufficing to secure the ample lighting of the clerestory, no matter what may befall the lots still outside. One would say an architect would hail the opportunity for a homogeneous treatment of the church and its dependencies. The architects took a different, and, what one is driven to consider, a mistaken view. They determined to signalize and make conspicuous the central feature of the composition, the church, in contrast with the flanking dependencies and at their expense. They emphasized this purpose by a violent contrast even of material, the light limestone of the church front being framed between two masses of brickwork of a fiery gamboge. The treatment carries the differentiation still further. Though the detail of the flanking buildings is of the late domestic French Gothic, the fact is less obvious than their difference in material, so that at a glance they do not seem to "belong" at all. At a glance they do not look even "institutional" but only residential buildings, such as one might expect to find in this quarter, erected upon merely commercial considerations. One would rather see an unmistakable group, executed even in rough brickwork, but showing a composition having unity in its variety than this assemblage which seems so much like a "fortuitous concourse." And, indeed, the church itself, though accurately and academically composed and detailed, is for that very reason not entirely acceptable as good Gothic, in which one instinctively demands more of individuality, or freedom, even of wilfulness, than go to the successful compilation of designs in more academic styles. The failure of the architecture to "bite" is in great part attributable to the comparative flatness and shallowness of the front, a flatness and shallowness suggestive of the masonry veneer of a skeleton construction. A Gothic front is very emphatically an affair of three dimensions.

Much more effective, and much more Gothic, is a much earlier work, the church of St. John Baptist, in West Thirtieth Street. The far greater depth of wall is required, by the fact of the central tower to be supported, a require-

ment for which the designer and the beholder have reason to be thankful. In "The Lamp of Power," Ruskin says of the Gothic architects that they "gave to the temple gate the depth and darkness



Fire Department Headquarters.  
68th St. extension, New York.  
N. Le Brun & Sons, Architects.

of Elijah's Horeb cave." And one has only to compare these two fronts to feel the advantage of the greater depth of the elder, an advantage skilfully heightened by the modelling of the masses, the tower



Fire Engine House (1884).  
Old Slip, New York.  
N. Le Brun & Sons, Architects.

diminishing and pyramidizing as it rises. For many years this pyramidizing tower stood unsurmounted by its crowning spire, and to many beholders it was a more welcome object than it has been since the spire was completed. Not that there is anything the matter with the spire, but that the mass and weight of the tower, diminishing by stages as it rose and provisionally and bluntly capped, were better apprehended before the addition, and the impression proportionately deeper. This result is not without precedent. Admirable as is the modern completing spire of Ulm Minster, the hunter after the picturesque finds reasons to regret the huge massive old tower as it was in its incompleteness.

One other piece of church-building by our firm is worth a word in passing, and

that is what was originally a chapel, at Lexington Avenue and Twenty-third Street, but has since sunk to be a gas company's office and is now for sale and doubtless doomed to a speedy demolition. In composition it is nothing but a box. It owes its interest entirely to the decoration of the front in terra-cotta. When it was built the manufacture of terra cotta had by no means attained its present perfection, and the elaboration and the mechanical excellence of this ornament made it a nine days' wonder. But the designers made full use of their material, and it cannot be said that all designers do so even yet. At least they did in the rich and refined arcade over the doorway of this now obsolete building, which one could tell for terra cotta. The doorway is equally rich and refined as a piece of design, even if it lack some of the attractiveness which comes from an unmistakably idiomatic treatment of the material. But the whole feature is pretty and effective, and loses nothing, but

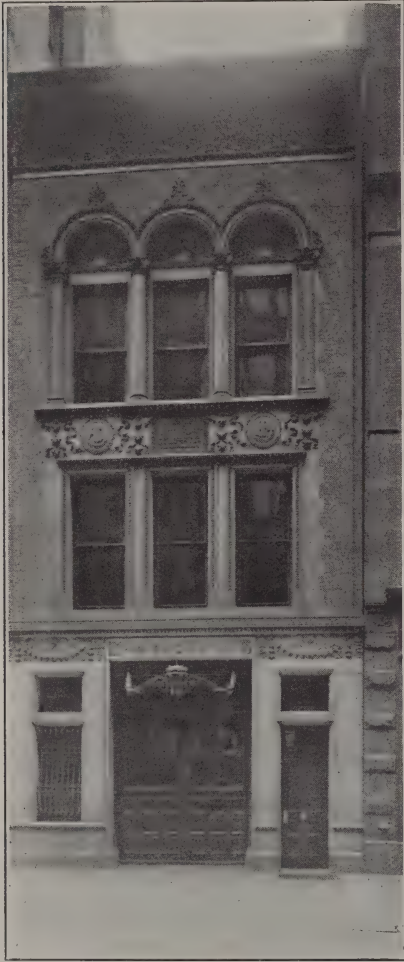


St. John the Baptist (1872).  
W. 30th St., New York.  
N. Le Brun & Sons, Architects.



gains much for being looked at apart from its "context."

Until the employment of Messrs. Le Brun as architects of the Fire Department, that department was in the same condition of apparently hopeless degradation, architecturally, in which all the other municipal departments were which



Fire Engine House (1894).

18th St., New York.

N. Le Brun & Sons, Architects.

had any building to do, the same condition in which the Board of Education was before it was happily inspired to employ Mr. Snyder, the same condition in which most of them still are. The employment of skilled architects by the Commissioners of the Fire Department was a great step forward. The Head-

quarters of the Department in East Sixty-seventh Street were designed, as you see, when Richardson's influence was paramount, and every architect who aspired to be "up to date" had to dabble in Romanesque. The present edifice, though in a way an example of Richardsonian Romanesque, was "not a bigoted one." One misses the dwarfed columns and the exaggerated depth of voussoir. One misses also, one is bound to say, the presence of any visible means of support for the wall over the two stable doors which denote that the building is an engine house as well as a "head-quarters." The actual metallic supports are made as little of as they would be in a retail dry goods store, and one does not see the necessity. Apparently a pair of segmental arches visibly adequate to carry the superincumbent wall might have been introduced without impairing the necessary head-room. What gives its chief interest to the building is the tower which is here a practical as well as a picturesque feature, being both a belfry and a watch-tower. Mr. Withers's picturesque treatment of that theme in Jefferson Market is one of the successes of the New York group of which it is *the* feature. In this case, his disposition is reversed by putting the watch tower over the bell tower, and it is curious to remember that, when it was built, this tower really did overlook the region in which it is situated. Now, its chief value may be supposed to lie in its picturesqueness as a bit of street architecture, and that value is considerable.

The most satisfactory piece of Messrs. Le Brun's work for the Fire Department, nevertheless, is the engine house in Old Slip. This is an unpretentious piece of Dutch Renaissance, appropriate to a site within the confines of the Dutch settlement of Manhattan. The style is designated only by the crowstepped gables and some quaint and sparing decoration, including a Dutch crane for hoisting hay to the loft, which might perhaps have been made more of. The wall-fields of brickwork are enclosed, laterally between quoinings and vertically between string-courses of brown stone, and in the second story, black headers are freely interspersed so as to make a kind of pattern.

(As usual, the subsequent vandals in charge of the building have been unable to restrain themselves from painting out this effect.) The whole thing is admirably suited to its place and its function. Very much more elaborate and pretentious is an engine house which is merely a lot front in Eighteenth Street, near Broadway, and far more elaborate and pretentious still a double or triple engine house at White and Elm streets. But neither is as successful as the simpler. Both are "from the purpose" of engine houses. The upper stories of the front on Eighteenth Street would make a very appropriate house front up town. The upper stories of the White Street building would "belong" to a much more extensive and expensive type of residence, being, in fact, a little, and not so very little, *château*. Both aim at "elegance," and, indeed, both attain it. But what has elegance to do with so grimly practical a business as putting out fires? Nobody would think of designing an "elegant" jail, which, however, would be as much to the point as an elegant fire engine house. And one is not at liberty to admire the design abstractly, and as that for a building "*quelconque*." The actual purpose of the erection is in each case given hopelessly away by the stabledoors of the basement, and the inspector can only say that here are very pretty things very much out of place.

Another and very different and much more recent edifice strikes him who comes casually upon it as out of place in a very different sense. It looks like a piece of the city dropped down in the country. And that is, in fact, precisely what it is in fact, being the record-building of the Metropolitan Life. It seems queer enough to meet it out here in the country, so manifest a piece of urban architecture and in such violent contrast with its surroundings, natural and artificial. The nearest building to it is the picturesque spreading bungalow of a golf club. Presently one perceives that it is merely sensible to establish upon cheap rural land a place for the archives of a metropolitan concern, which cannot afford space to store them on the so much more costly soil of Manhattan Island,

and that this is but carrying a step further the common procedure of so many urban concerns in respect to their factories. The contradiction of the surroundings is a conformity to the purposes of the "institution" whose mark the building so plainly bears. One might wish that the purpose had been even more conspicuously carried out and the structure have become a tower instead of a hall of records. But no doubt the economies have been carefully considered and considered to preclude the most impressive form of advertisement. The building is what one might expect from its purpose, a seemly piece of commercial architecture, though not a striking one, except for the place in which we find it. One detail of interest there is. By the use of double courses of headers and the like, the pilasters in brickwork bear what may be called a decorative pattern which tends to relieve their intrinsic monotony.

Another recent building which is notable by reason of a similar variation is the San Francisco office of the Metropolitan Life. This is a square and strictly classic building, of two stories over a low basement, both stories included in an order which constitutes the structure and gains accordingly in effect over an order which is applied to part of the structure. It is appropriate to its situation, since it is seen in connection with the long terraced and colonnaded front of the "Fairmount" which crowns "Nob Hill," with a really Acropolitan effectiveness. The noteworthy novelty is the introduction of color into the frieze, a raised ornament in white and yellow against a background of pale blue, all done in *faience*, the structure being in glazed white *terra cotta*. This is the kind of thing which we know from authentic remains the Greeks did, and the kind of thing we might be sure they would have done were there no remains to give external evidence of the fact. The simpler the design, which is here of the utmost simplicity, the more necessary to its completion is the addition of color. "The temples whose azure and purple once flamed above the Grecian premonitories, stand in their faded whiteness like snows which the sunset has left cold."



It is to be hoped that the innovation, or renovation, in this building may fructify, even though it be certain that, if it becomes fashionable, we shall suffer from much wild work unregulated by the cautious discretion which characterizes this initial instance.

These works we have been considering, successful as some of them are, and interesting as almost all of them, for one reason or another are, would by no means have instigated the unprecedented compliment their authors have received. That is due to their skyscrapers, culmin-



FIRE ENGINE HOUSE (1895).  
Lafayette and White Sts., New York.

N. Le Brun & Sons, Architects.



RECORD BUILDING, METROPOLITAN LIFE INSURANCE CO. (1908).

Bronxville, N. Y.

N. Le Brun &amp; Sons, Architects.

ating in the loftiest of all the skyscraping towers. The huge extent and the unprecedented altitude of the Metropolitan make the beholder prone to forget that quite the same artistic qualities displayed in its design were displayed many years before in a mere street front, that of the Home Life, in lower Broadway. The early tall buildings were a series of architectural experiments. It seemed as though the sudden enablement of a greater height than had before been feasible had driven out of the minds of the designers the fact that these new and portentous structures were as amenable to architectural laws as the older and more commonplace, that, in particular the Aristotelian law as completely applied to them, and that every artistic building must have a beginning, a middle and an end. A confusion of variety came in before the steel frame came in to aggravate the altitude the elevator had made possible, and the transitional buildings, if one may call them so, between the old maximum of five stories and the new of a maximum number yet undetermined, were really Babelish, almost Bedlamite, in the variety of the theories upon which their designers proceeded. At last came the consensus upon which every designer of skyscrapers acts to-

day. The analogy of the column was accepted, of a base of a story or a group of stories, a shaft of a number of stories almost or quite identical in treatment, and a crowning capital which might again be a group of stories. Thus was the Aristotelian precept observed. Now, the distinction of the Home Life, which, as to the front wall which comprised all its architecture, was a real wall of masonry was that it very early arrived at the theory and observed the precept, and was in its design an intelligent and artistic summation of what had been ascertained and agreed, at its date, as to the subjection of the new monsters, so long "ferae naturae." to the reign of law. Doubtless the accepted type was a conventional type. It commended itself all the same, and still commends itself. It was very successfully realized, nearly for the first time, in this stately front of an "elegance" here, in a building primarily the abode of an institution, well enough in place. How many things better, or as good, have been done in the same kind since 1894. The story above the entrance is signalized in dimensions and in elaboration of ornament as the home of the proprietary institution, and treated to the result of making it an effective and attractive base. The eight

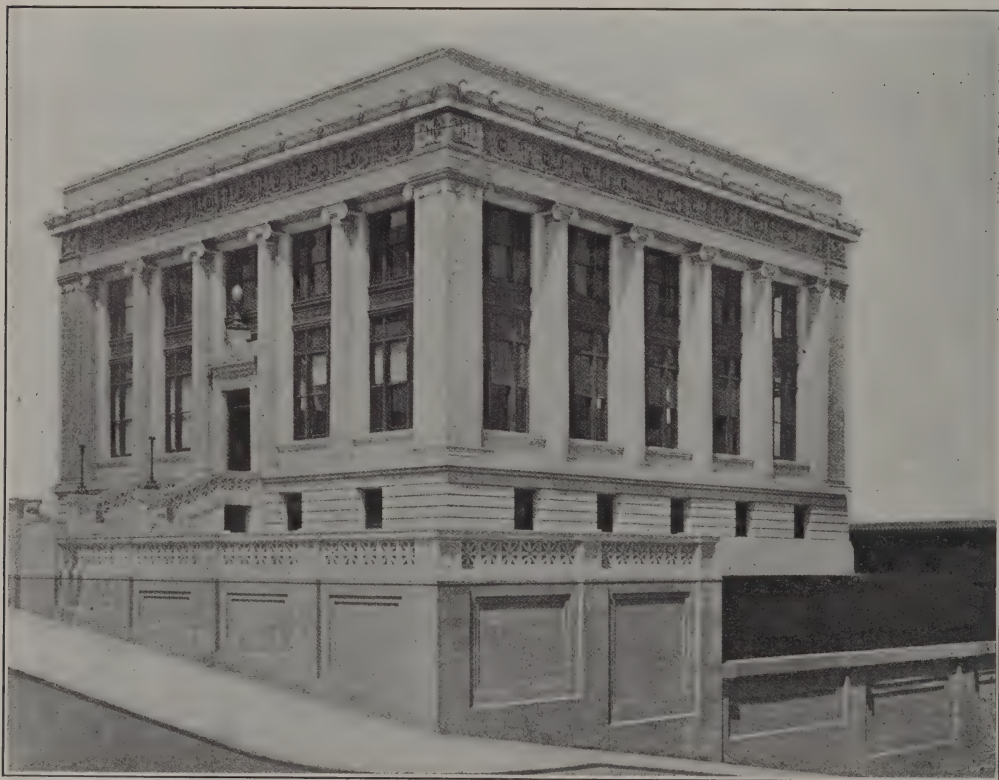


stories of the shaft, with a story of connection and transition at top and bottom, are treated with absolute uniformity and absolute simplicity, while the openings of the centre are effectively framed between the broad piers with a single opening in each. The capital, the crown, is of a suitable proportion and of a suitable and not excessive richness.

Most can grow the flowers now,  
For all have got the seed;

but the accepted convention in the treatment of skyscrapers is here so skillfully

years, it would doubtless have much exceeded the actual limit of ten stories, to which we have reason to be grateful that it was confined. The original building, as it has stood now for seventeen years, would of itself be noteworthy among our commercial structures. The respectable dimensions of the site, roughly 125x150, prevented a ten-story building erected upon it from taking on the similitude of a tower. It would have remained noteworthy by reason of the clearness and the felicity with which the Aristotelian



METROPOLITAN LIFE INSURANCE CO. BUILDING (1909).

San Francisco.

N. Le Brun & Sons, Architects.

and tastefully expressed as to make it hard to realize that the building is a pioneer.

The Home Life would be distinguished and noteworthy if the Metropolitan Life had never been built. But, of course, it is the later building that brings the earlier into notice. In several respects the earlier has served as a study for the later. Had the later been kept waiting a few

dictum is observed, the skill with which the parts are related and combined into a whole, and the refinement and grace of the detail. "Elegance" is undoubtedly the result. Elegance, indeed, rather than vigor is the result commonly aimed at in the work of these architects, aimed at, as we have seen, in cases in which it was pretty distinctly not the result at which to aim. It is proper to explain that the

ornateness of the work is accounted for by the fact that the superstructure, over the rusticated basement, was originally designed for terra cotta, and by an after-thought executed in carved marble. But it is in place, all the same, and, in fact, the elegance of the Metropolitan Life by no means involves feebleness. There is enough of mass and weight and depth in the solids, and enough of skill in their disposition in reference to the voids to preclude that. Again, as in the Home Life, the signalization of the second story as the abode of the "institution" supplies an architectural motive and an architectural feature. The original erection was at once very acceptable as an independent and complete building and available as a nucleus for the huge extension to which it has subsequently been subjected as to suggest that that extension might have been within the contemplation of owners and architects when the original was erected. The character of elegance, which is that of the building in general, is carried furthest in the treatment of the entrance hall, which is of an effective sumptuosity almost without parallel in our interior architecture. But it is saved from any taint of vulgarity or even of ostentation by the clear showing that the richness of material was required by the design. *Materiem superat opus*. There is nothing which smacks of what the scorner of preciousity describes as "early Pullman or late North German Lloyd." The precious marbles of Pavanazza or Tinos were needed to produce the due effect of the elaborate design and the rich and delicate detail, and they were supplied. Compare this entrance hall with the Philadelphia cathedral, which loses so much of the rightful effectiveness of the design because the due material in which to execute it could not be afforded. The effect is the same in the interminable corridors of the completed and extended building, even in the sumptuosity of the quarters of the company in the extended second floor. The execution merely corresponds to the intention.

But the tower is, of course, the center of interest, as it has been for these many months, and as it is likely to remain for many more, the cynosure of middle Manhattan. In many respects the design of the Metropolitan tower was dic-



Home Life Insurance Co. Building (1893-94).  
Broadway, New York. N. Le Brun & Sons, Architects.





Fire Department Headquarters (1886).  
68th St., bet. 3d and Lex. Aves., New York.  
N. Le Brun & Sons, Architects.

tated by the conditions, by the area, by the intended altitude, by the ultimately utilitarian character of the erection. A parallelopiped of the full area of the site and as high as it could profitably be carried. A "campanile" was imperatively indicated, meaning not a bell tower but a square unbuttressed tower of many equal stages. The visibility to the bottom, across the square and to the westward, constituted a condition which distinguished this from that other tower with which it is impossible, in discussing either, to avoid comparison. The Singer Tower is merely an emergence, a peak in a mountain chain, and would doubtless have been modified if it also had, from any important point of view, had to be considered from the ground to the sky. In the Metropolitan, the base and the

shaft are predetermined, although in the base there may have been a question whether an entrance should be signalized, a question which, if it arose, has been wisely decided in the negative. It is only above the shaft, and in the capital, the crowning member, that the question of general form and general disposition, can have presented itself to the designers as one upon which they had any liberty of choice. This only, therefore, is disputable. It seems highly absurd to say of the highest habitable erection in the world that there are points of view from which it looks too low, looks, not to put too fine a point upon it, squat and in disproportion to its own crowning member. And yet there are, undoubtedly, such points of view which may and must be taken of the Metropolitan tower. It is the case when it is seen from the eastward "above the purple crowd of humbler roofs." In fact, the generous area of the site, 85x75, and the mass of the ten-story building to which it is attached reduce the mass of the tower above the roof of the main building to about a double cube, which is, doubtless, short for a tower.

One wonders if it may not have occurred to the architects, now that the work is irrevocably executed, whether they were not misled by a false analogy in determining upon a triple composition for the crowning member, as well as for the total structure, whether it would not have been more effective to lengthen the shaft below the loggia, or "belfry-stage," by the height of the member (the "die," shall we call it?) which now appears just above that stage, and to forego the triple division of the top.

But in any case, the tower is a noble and impressive feature, and would be in spite of far more questionable points than those we have been raising. The words with which the New York Chapter of the American Institute of Architects accompanied their award for the most meritorious work of the year 1909 were well measured, well weighed, and well deserved:—

This award is given for the Tower of the Metropolitan Life Insurance Company Building, in consideration of the general excellence of the result attained, and the extremely successful

treatment of one of the most difficult problems now presented to American architects.

And of the lifetime of work of which the tower is the culmination, it may be said that it has never discredited, but has continued and extended the traditions

of which the retiring architects are the inheritors. It is a tradition of discretion, of moderation, of decorum—in a word a tradition of “good taste.”

*Montgomery Schuyler.*



ROTUNDA—METROPOLITAN LIFE INSURANCE COMPANY'S BUILDING.

Madison Ave. and 23d St., New York.

N. Le Brun & Sons, Architects.





NO. 1 EAST 75TH STREET.

New York.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.

## A Fifth Avenue Mansion

The house, illustrated herewith, situated at No. 1 East 75th Street, in New York City, affords an excellent illustration of the highest type of urban residence now being built in this country. Dwellings of this class almost always have certain common characteristics, which distinguish them from similar residences in the other large American cities. In the first place, they are usually erected on comparatively small lots, because the cost of land on or near Fifth Avenue is high enough to make even a millionaire prudent. It follows that, because a good deal of room is needed on a comparatively small lot, the building usually has to be narrow in one of its dimensions and high. Finally, it is imperative that a house of this type should not only be costly, but should look so. It has become customary among Americans that their houses should be expressive of abundance and wealth. They usually desire also that this effect of opulence should be conveyed in an architecturally meritorious manner, but they are not satisfied with a meritorious design pitched in a low key.

It is not unnatural that such should be the case; and the demand made upon the architect of such a house to make it expressive of the wealth of its owners has its justification. A residence is not a monumental building. It has other conditions to satisfy than those which arise from purely architectural considerations. It must bear a close relation to the life of the people who inhabit it. It must be expressive of their standards and interests; and there can be no doubt as to the nature of the standards to be satisfied when an architect is designing a house for a rich American. Such people are, as a rule, frankly proud of their wealth. It is the indication and proof of their success and their personal efficiency. They do not want necessarily to display it, but neither do they want to conceal it. They have none of the social timidity which characterizes the middle-class Englishman; and they do

not like architectural forms which tend to be expressive thereof. The majority of their associates have built houses which are frankly luxurious; and when they build a house of their own they naturally desire that it also should, in its appearance, constitute a celebration of their success.

The house at No. 1 East 75th Street illustrates all the characteristics common to the type, but it does so in a manner free from excess or exaggeration. The corner lot on Fifth Avenue, whereon it is erected measures 35 feet on the avenue by 100 on the street, which are not ideal proportions from an architect's point of view, but which are a great improvement on 25 by 100 feet. The building erected on it contains five stories, which, high as it is compared to the average private house, is low for the neighborhood of upper Fifth Avenue in New York. Finally, the effect of the house, both outside and inside, is unmistakably rich and costly, but this effect is obtained by the use of comparatively discreet and architecturally meritorious means. In other words, the frank costliness of the effect of the house never even suggests mere ostentation. An intelligent and conscientious architectural purpose has given coherent form to every detail of the house and its decoration, so that the effect of mere costliness has become subordinated to a more dominant effect of architectural balance and propriety.

The exterior of the house affords a good illustration of the way in which the architect has managed to convey an impression of wealth without any suggestion of merely vulgar ostentation. The Tennessee marble of which it is constructed is alone sufficient to give the dwelling an air of opulence; but the use of a handsome and costly material is about the only concession which the architect has made to showiness. In every other respect the design of the building is a model of discreet simplicity. The ornament has been reduced to



the lowest possible terms, and has been applied with a proper understanding of where it is desirable and necessary. The scale of all the projections are low, rather than high, and contribute to the general impression made by the exterior of quiet elegance. Finally, the openings, while numerous, are not so numerous as to deprive the façade of the kind of dignity which can be derived only from a certain amount of plain wall surface. If there is any façade on upper Fifth Avenue which gives an effect of quiet elegance by worthier architectural means it has not been our good fortune to come across it.

In designing the interior of the house, the architect has adopted analogous means to obtain a similar effect. No expense has been spared in the making an interior expressive at once of luxury and refinement. The materials are the best which it was possible to buy. The utmost care has been used in the design of every detail of the ornamentation and in the selection of every article of furniture and the hangings. In many instances the ornamentation of the walls and the ceilings has been entrusted to the best available contemporary mural decorators. The architect, Mr. James Gamble Rogers, of Hale & Rogers, has used every device which modern taste and ingenuity has suggested to make the house a safe, convenient, luxurious and beautiful habitation, and his clients cannot complain either of his mastery of the problem or of the success of the solution.

In planning the interior arrangement of the house, Mr. Rogers was obliged to submit to certain restrictions, imposed by the size of lot. A lot which measures only 35 feet in one of its dimensions demanded an economical distribution of the available space. Room for an imposing hall or monumental staircase could not be afforded. One enters, consequently, on the 75th Street side of this building into a vestibule, from which a door on the left leads into a most inviting entrance hall. This room constitutes an excellent transition from the stone finish of the vestibule to the greater domesticity of the living rooms. It is a paneled room, with a beautiful domed and

figured ceiling, and is furnished with propriety and good taste. The opening on the west wall of the hall leads to a reception room. On the east wall are two doors, one by which you enter from a vestibule and another at a slightly higher level leading to the stair hall and to the dining room. Finally, on the north side there is a smaller room, from which one reaches the elevator and the disrobing rooms. Everything is compact and convenient as possible. The portions of the plan, devoted to service, are pushed over to the north end of the building, and the whole southeast and west sides are obtained for the room in which the family live. The plan utilizes every inch of space to the best advantage, in the interest both of convenience and architectural effect.

The reception room, occupying the west end of the ground floor, is a paneled room, with a charming Huet ceiling and predominantly French in character. The reader should examine carefully every detail of this apartment, because every detail has been planned or selected with the most scrupulous care, so as to contribute to a consistent effect. Even the fixtures in the wall, whereby the electric lights are switched on or off, have been designed so as to harmonize with the details of the woodwork. The dining-room at the other end of the ground floor cannot be classified as belonging to any specific period, but is rather an example of what free adaptation of elements derived from various sources, which is becoming increasingly characteristic of American interior design. The walls are finished in Caen stone, and on this stone is hung red velvet, so that the stone counts only as a border. The beamed ceiling, the tapestry behind the side-board, the substantial carved and tapestried furniture, and the superb rug covered almost the whole of the room, all of these details contributed to an effect, as rich as it is unusual and beautiful. The reader should be warned, however, that the contrast between the stone walls and the velvet hangings is not as sharp in reality as it shows in the photograph. In dealing with the window on the east side of this room, the architect was confronted by the problem

of admitting the light without allowing the inmates to see the dull brick wall just outside the window. He hit upon the happy idea of filling the sash with opaque glass, which was made interesting by using the leads as the foundation of a very beautiful linear pattern. The design of this window, which was described in a recent number of the *Architectural Record*, was entrusted to Mr. Kenyon Cox.

The stair hall and the stairway have been kept, of course, substantial in appearance and simple in design. The chief ornamental features of the former are two terminal heads in marble, designed by Mr. Henry Hering, and of the latter a heavy bronze rail. When a visitor reaches the second floor, he enters from the stair hall into a spacious and beautiful gallery stretching from the library on the west of the building to the music room on the east. It is on this floor that the simplest and the merits of Mr. Rogers' plan becomes strikingly manifest. Three really magnificent rooms are obtained on this floor in a house, whose area is not so very considerable; and all of them have every advantage of situation and arrangement. The gallery, with its carefully designed paneling, its rich hangings, and its domed decorated ceiling is, perhaps, the most beautiful room in the house; and, together with the library and the music rooms, it offers an opportunity for the exercise of the most abundant hospitality. The photographs of the music-room and the library speak for themselves, but the reader's attention is particularly called to the extraordinary tapestry over the mantel piece in the library, and the painted ceiling of the music-room.

In the foregoing description of the interior of this house, we have not attempted to mention in detail the many beautiful fixtures, furnishings and decorations it contains. Although all de-

tails have been considered with the utmost care, any trained eye will immediately discover that the electric fixtures, for instance, have either been bought abroad or have been made in this country from old models. These smaller facts have usually been suppressed, because the architect was seeking, in furnishing and equipping these rooms, one general effect, rather than a series of incidental effects. There are certain hangings and furnishings in the house which are really rare and beautiful enough to find a place in a museum, but they are mixed with other good but less distinctive pieces; so that the general impression is not spoiled by an excessive and inappropriate severity. The company, that is, which these "objets d'art" keep is as it should be in any really American house—somewhat mixed—the result being that a further alloy could be permitted without any grave injury to the present appearance of the rooms.

The upper floors of the house are devoted to bed-rooms, some of which are reproduced herewith. These bed-rooms and dressing-rooms have been designed with Mr. Rogers' usual careful attention to detail. All of them have charm, as well as comfort, and complete the impression of luxurious refinement, conveyed by the rest of the house. The owners are to be congratulated upon an architect who could give so much interest and ingenuity to the details of their residence, as well as to the salient parts of its plan and design. One of the gravest defects of American architecture is usually a neglect by the better American designers of a scrupulous attention to those small things which form a necessary consummation of an unsuccessful design, and this defect is conspicuous by its absence from No. 1 East Seventy-fifth Street. Much of the success which Mr. Rogers has achieved has depended on this fact.

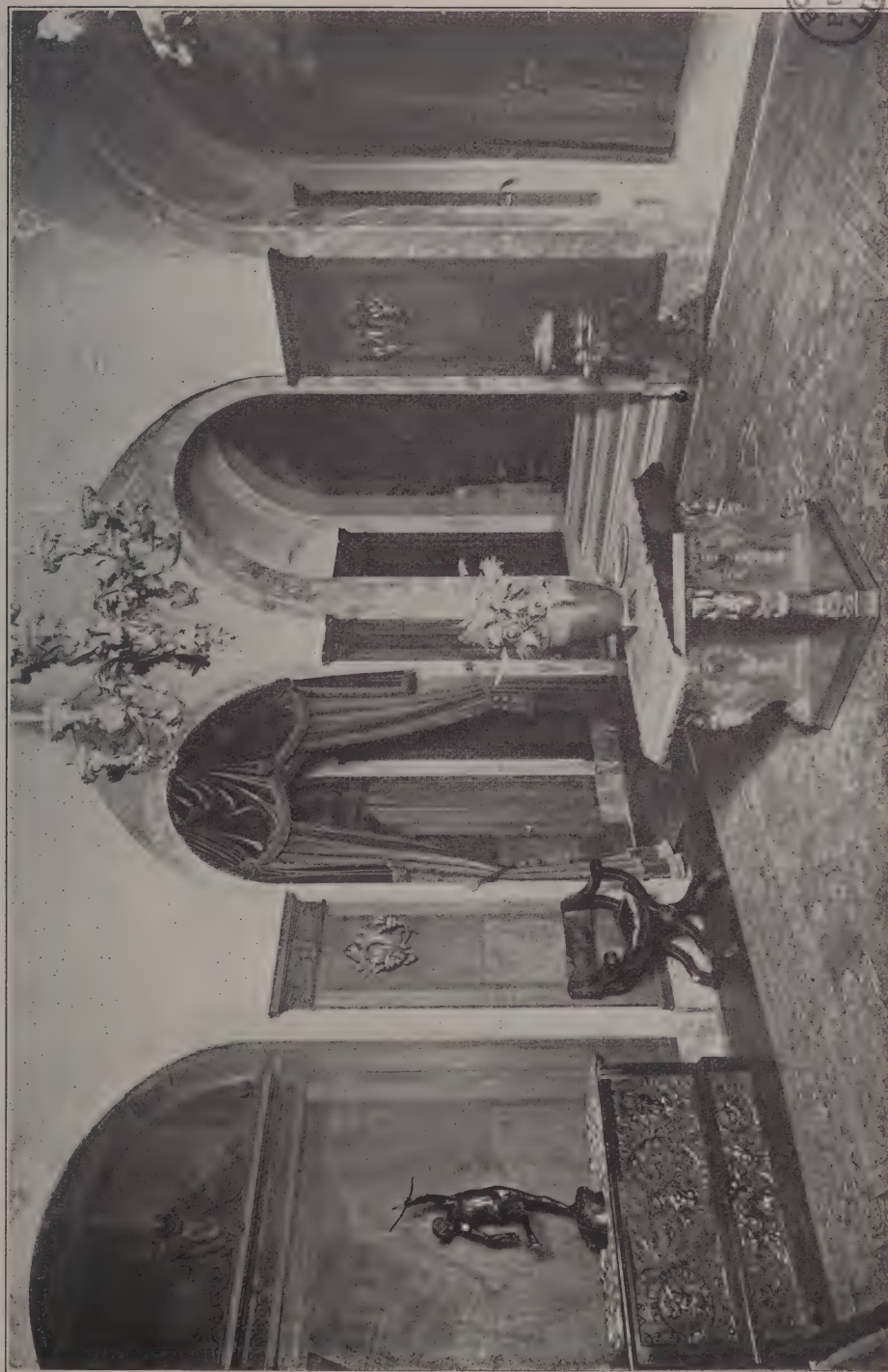




NO. 1 EAST 75TH STREET—ENTRANCE HALL AND STAIRS.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.

New York.



NO. 1 EAST 75TH STREET—HALL.

Jas. Gamble Rogers, Architect, of Hale & Rogers.

New York.





NO. 1 EAST 75TH STREET—GALLERY.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers,

New York.



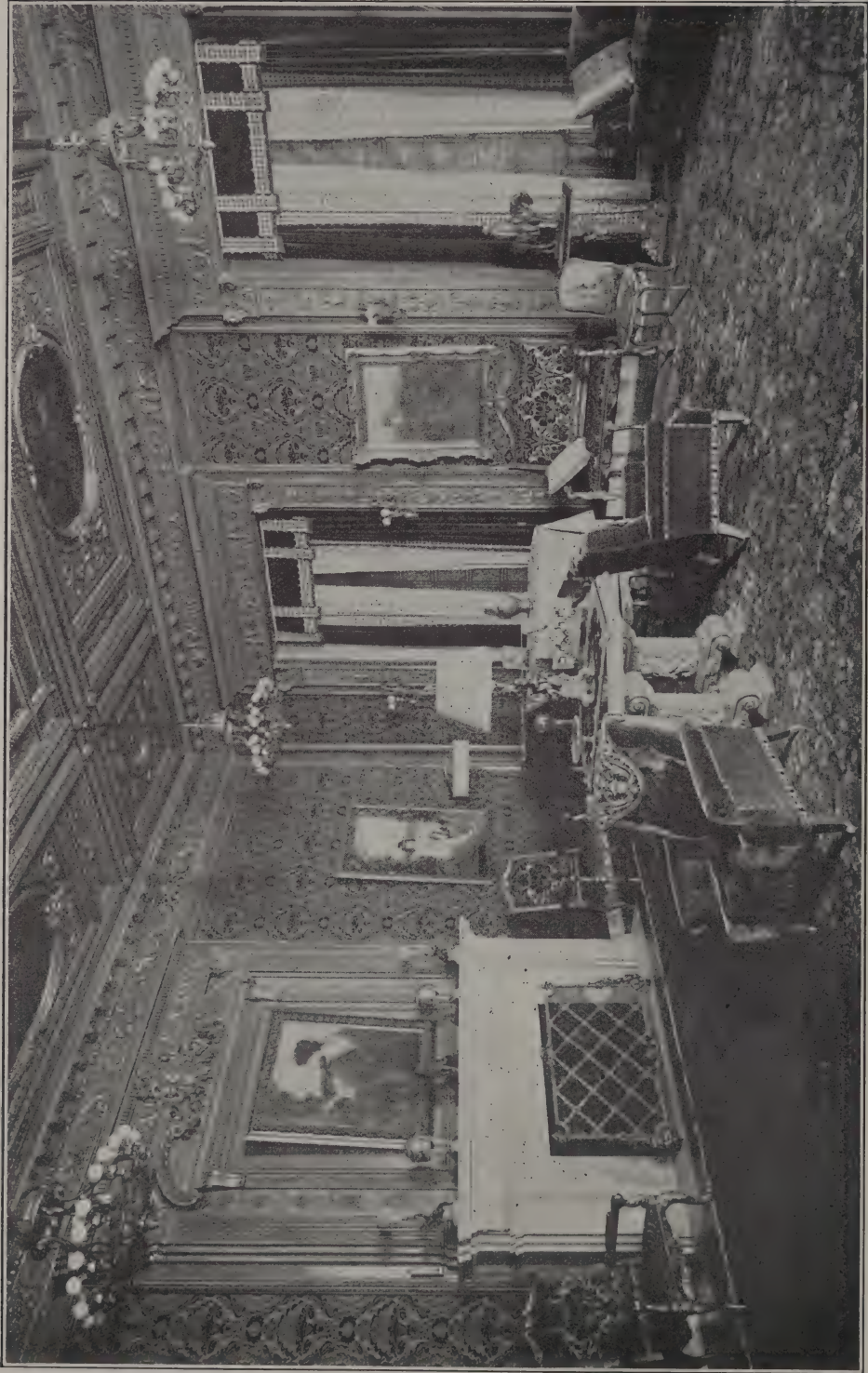
NO. 1 EAST 75TH STREET—RECEPTION ROOM.

New York.

Jas. Gamble Rogers, Architect, of Hale & Rogers.







NO. 1 EAST 75TH STREET—THE MUSIC ROOM.

New York.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.



NO. 1 EAST 75TH STREET—MUSIC ROOM CEILING.

Jas. Gamble Rogers, Architect, of Hale & Rogers.

New York.

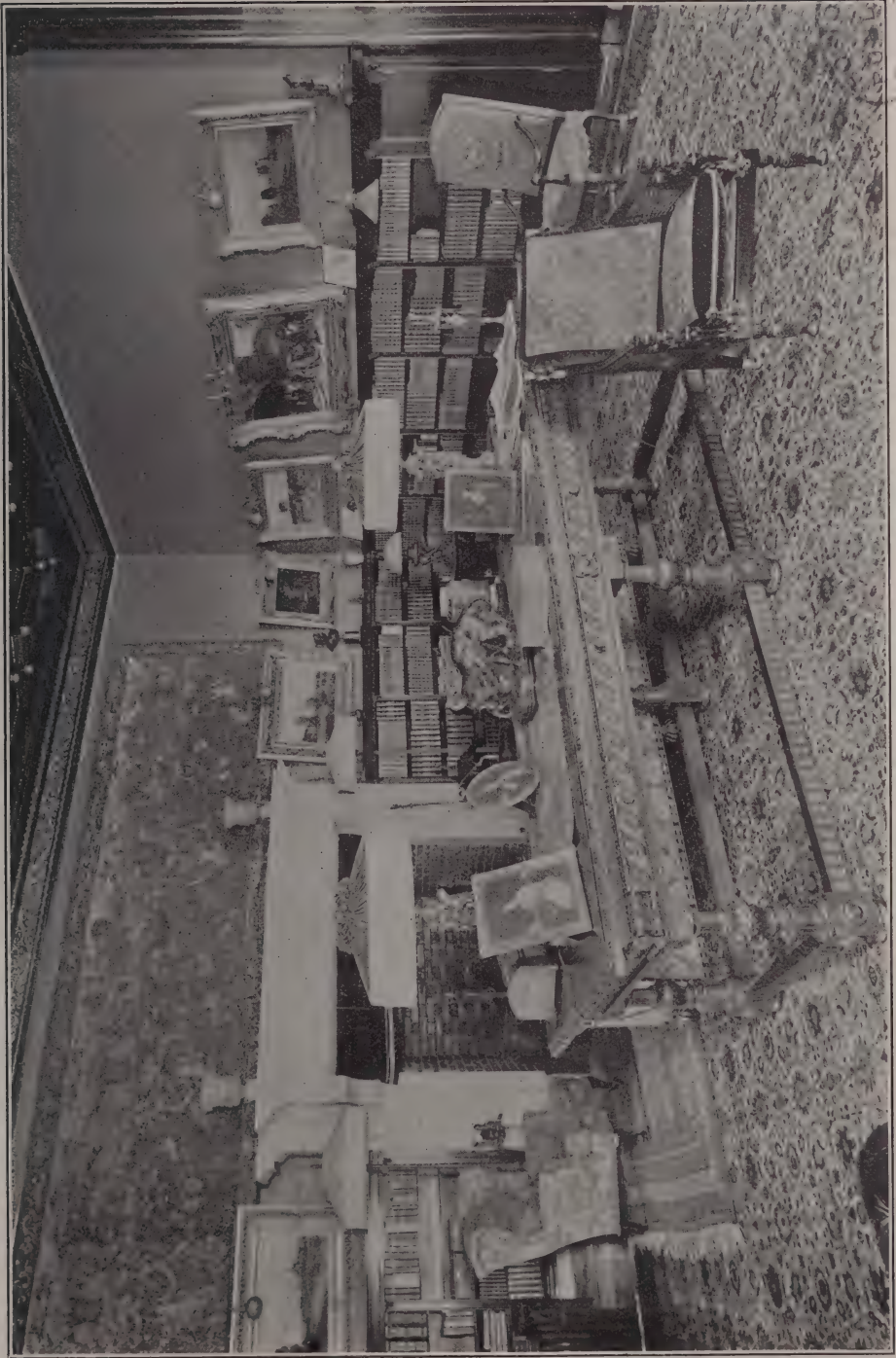




NO. 4 EAST 75TH STREET—DINING ROOM.

New York.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.



NO. 1 EAST 75TH STREET—LIBRARY.

Jas. Gamble Rogers, Architect, of Hale & Rogers.

New York.





NO. 1 EAST 75TH STREET—DINING ROOM MANTEL.

New York.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.



NO. 1 EAST 75TH STREET.—DINING ROOM MANTEL.

New York.

Jas. Gamble Rogers, Architect, of Hale & Rogers.





NO. 1 EAST 75TH STREET—RECEPTION ROOM MANTEL.

New York.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.





NO. 1 EAST 75TH STREET—DINING ROOM WINDOW.

New York.

Jas. Gamble Rogers, Architect, of Hale & Rogers.





Bed Room.



NO. 1 EAST 75TH STREET—BOUDOIR.

New York.

Jas. Gamble Rogers, Architect, of Hale &amp; Rogers.



NO. 1 EAST 75TH STREET—ENTRANCE ON 75TH STREET.

New York.

Jas. Gamble Rogers, Architect, of Hale & Rogers.





TETE D'EXPRESSION.

Matisse.

## The Wild Men of Paris



Sculpture by Matisse.

I had scarcely entered the Salon des Indépendants when I heard shrieks of laughter coming from an adjoining wing. I hurried along from room to room under the huge canvas roof, crunching the gravel underfoot as I went, until I came upon a party of well-dressed Parisians in a paroxysm of merriment, gazing, through

weeping eyes, at a picture. Even in my haste I had noticed other spectators lurching hysterically in and out of the galleries; I had caught sight of paintings that had made me gasp. But here I stopped in amazement. It was a thing to startle even Paris. I realized for the first time that my views on art needed a radical reconstruction. Suddenly I had entered a new world, a universe of ugliness. And, ever since, I have been mentally standing on my head in the endeavor to get a new point of view on beauty so as to understand and appreciate this new movement in art.

"Une Soirée dans le Désert" was a fearful initiation. It was a painting of a nude female seated on a stretch of sand, devouring her own knee. The gore dripped into a wineglass. A palm tree and two cacti furnished the environment. Two large snakes with target-shaped eyes assisted at the debauch, while two small giraffes hurried away from the scene.

What did it all mean? The drawing was crude past all belief; the color was as atrocious as the subject. Had a new era of art begun? Was ugliness to supersede beauty, technique give way to

naïveté, and vibrant, discordant color, a very patchwork of horrid hues, take the place of subtle, studied nuances of tonality? Was nothing sacred; not even beauty?

If this example of the new art was shocking, there were other paintings at the Salon that were almost as dire. If you can imagine what a particularly sanguinary little girl of eight, half-crazed with gin, would do to a whitewashed wall, if left alone with a box of crayons, then you will come near to fancying what most of this work was like. Or you might take a red-hot poker in your left hand, shut your eyes and etch a landscape upon a door. There were no limits to the audacity and the ugliness of the canvasses. Still-life sketches of round, round apples and yellow, yellow oranges, on square, square tables, seen in impossible perspective; landscapes of squirming trees, with blobs of virgin color gone wrong, fierce greens and coruscating yellows, violent purples, sickening reds and shuddering blues.

But the nudes! They looked like flayed Martians, like pathological charts—hideous old women, patched with gruesome hues, lopsided, with arms like the arms of a Swastika, sprawling on vivid backgrounds, or frozen stiffly upright, glaring through misshapen eyes, with noses or fingers missing. They defied anatomy, physiology, almost geometry itself! They could be likened only to the Lady of the Limerick:

"There was a young girl of Lahore,  
The same shape behind as before;  
And as no one knew where  
To offer a chair,  
She had to sit down on the floor!"

But it's no use going on; you will, I am sure, refuse to take me seriously. You will merely think I am trying to be funny. Wherefore, I hired a man, a brave one, too, to photograph a few of these miracles. In line and composition the reproductions will bear me out, per-



haps; but, unfortunately (or is it fortunately?), the savagery of color escapes the camera. That color is indescribable. You must believe that such artists as paint such pictures will dare any discord. They have robbed sunsets and rainbows, chopped them up into squares and circles, and hurled them, raw and bleeding, upon their canvases.

Surely, one cannot view such an exhibition calmly. One must inevitably take sides for or against such work. The revolt is too virulent, too frenzied to be ignored. Long ago my father said: "When you see a fool, don't laugh at him, but try to find out why he does so. You may learn something." And so I began to investigate these lunatics. Had they attempted to invent a new form of humor? Were they merely practical jokers? Or must we seriously attempt anew to solve the old question: "What is art?"

It was an affording quest, analyzing such madness as this. I had studied the gargoyles of Oxford and Notre Dame, I had mused over the art of the Niger and of Dahomey, I had gazed at Hindu monstrosities, Aztec mysteries and many other primitive grotesques; and it had come over me that there was a rationale of ugliness as there was a rationale of beauty; that, perhaps, one was but the negative of the other, an image reversed, which might have its own value and esoteric meaning. Men had painted and carved grim and obscene things when the world was young. Was this revival a sign of some second childhood of the race, or a true rebirth of art?

And so I sought to trace it back to its

meaning and to its authors. I quested for the men who dared such Gargantuan jests. Though the school was new to me, it was already an old story in Paris. It had been a nine-days' wonder. Violent discussions had raged over it; it had taken its place as a revolt and held it, despite the fulmination of critics and the contempt of the academicians. The school was increasing in numbers, in importance. By many it was taken seriously. At first, the beginners had been called "The Invertebrates." In the Sa-

lon of 1905 they were named "The Incoherents." But by 1906, when they grew more fervid, more audacious, more crazed with theories, they received their present appellation of "Les Fauves"—the Wild Beasts. And so, and so, a-hunting I would go!

Who were the beginners of the movement? Monet, Manet and Cézanne, say most, though their influence is now barely traceable. Cézanne, no doubt; Cézanne,

the pathetic bourgeois painter, whose greatest ambition was to wear the ribbon of the Legion of Honor, and to have his pictures exhibited in the old Salon, and who, because his maiden sister disapproved of the use of female models, painted nude women from nude men! Truly, he deserved the red ribbon. But Cézanne, though he experimented with pure color, was still concerned with tonalities. He was but the point of departure for these mad explorers. It was Matisse who took the first step into the undiscovered land of the ugly.

Matisse himself, serious, plaintive, a



Soirée dans le Désert.

conscientious experimenter, whose works are but studies in expression, who is concerned at present with but the working out of the theory of simplicity, denies all responsibility for the excesses of his unwelcome disciples. Poor, patient Matisse, breaking his way through this jungle of art, sees his followers go whooping off in vagrom paths to right and left. He hears his own speculative words distorted, misinterpreted, inciting innumerable vagaries. He may say, perhaps: "To my mind, the equilateral triangle is a symbol and manifestation of the absolute. If one could get that absolute quality into a painting, it would be a work of art." Whereat, little madcap Picasso, keen as a whip, spirited as a devil, mad as a hatter, runs to his studio and contrives a huge nude woman composed entirely of triangles, and presents it in triumph. What wonder Matisse shakes his head and does not smile! He chats thoughtfully of the "harmony of volume" and "architectural values," and wild Braque climbs to his attic and builds an architectural monster which he names Woman, with balanced masses and parts, with openings and columnar legs and cornices. Matisse praises the direct appeal to instinct of the African wood images, and even sober Dérian, a co-experimenter, loses his head, moulds a neolithic man into a solid cube, creates a woman of spheres, stretches a cat out into a cylinder, and paints it red and yellow!

Maitre Matisse, if I understand him, which, with my imperfect facility with French, and my slighter knowledge of art, I am afraid I didn't, quite, stands primarily for the solid existence of



La Femme.

things. He paints weight, volume, roundness, color and all the intrinsic physical attributes of the thing itself, and then imbues the whole with sentiment. Oh, yes, his paintings do have life! One can't deny that. They are not merely models posed against a background, like thousands of canvases in the Salons, they are human beings with souls. You turn from his pictures, which have so shockingly defied you, and you demand of other artists at least as much vitality and originality—and you don't find it! He paints with emotion, and inspires you with it. But, alas! when he paints his wife with a broad stripe of green down her nose, though it startlingly suggests her, it is his punishment to have made her appear so to you always. He teaches



Le Moulin de la Galette. Czobel.





Meditation.

you to see her in a strange and terrible aspect. He has taught you her body. But, fearful as it is, it is alive—awfully alive!

Painting so, in a burst of emotion, he usually comes to an end of his enthusiasm before he has attained beauty. You point out the fact to him that his painted woman has but three fingers. "Ah, that is true," he says; "but I couldn't put in the other two without throwing the whole out of drawing—it would destroy the composition and the unity of my ideal. Perhaps, some day, I may be able to get what I want of sentiment, of emotional appeal, and, at the same time, draw all five fingers. But the subjective idea is what I am after now; the rest can wait."

Matisse, however, should not be classed amongst the Wild Beasts of this Parisian menagerie. But of him I learned something of the status of the movement, which is a revolt against the subtleties of impressionism. It is a revolt

against "mere charm," against accidental aspects of illumination; a return to simplicity, directness, pure color and decorative qualities.

Matisse, being as mild a man as ever tortured the human form or debauched a palette, what of these other Fauves, who had left him out of sight in the runaway from beauty? I picked out seven of the most ferocious and stalked them all over Paris. From Montmartre to Montparnasse I chased, from the stable on the ground floor to the attic on the sixth, through courts, down corridors, up interminable stairs worn to a spoon-like hollowness, in and out of Quartier and Faubourg. And what magnificent chaps I met! All young, all virile, all enthusiastic, all with abundant personality, and all a little mad. But all courteous and cordial, too, patient with my slow-witted attempts to make order out of intellectual chaos. And, after long dialogues on art, on ideals and new orders of beauty, in each studio was a new impossible outrage in color to confute their words. It was amazing in contrast. It was as if some fond mother, after a doting description of her first-born babe, should lift a cloth and show



Portrait d'Homme.

you a diseased, deformed child upon the point of death!

And so, first, to visit Braque, the originator of architectural nudes with square feet, as square as boxes, with right-angled shoulders. Braque's own shoulders were magnificent. He might be a typical American athlete, strong, muscular, handsome, as simple as a child and as modest as a girl of nine. To see him blush when I asked permission to photograph him—and then to turn to the monster on his easel, a female with a balloon-shaped stomach—oh, it was delicious to see big, burly Braque drop his eyes and blush!

It was in a court off the Rue D'Orsel, up I don't know how many flights of stairs. No one could have been kinder than was Braque to the impertinent, ignorant foreigner. He gave me a sketch for his painting entitled "Woman" in the Salon des Indépendents. To portray every physical aspect of such a subject, he said, required three figures, much as the representation of a house requires a plan, an elevation and a section. His chief preoccupation is the search for violence (he spars, too, does Braque), for a primitive emotion. He looks at Nature in order to possess it emotion-



Georges Braque.

ally. In his sketch there is a "harmony of volume," which is a step further than any mere flat decorative effect. It is a spiritual sentiment. Now, gentle reader, look at his drawing! I had to keep my face straight.

"I couldn't portray a woman in all her natural loveliness," says Braque. "I haven't the skill. No one has. I must, therefore, create a new sort of beauty, the beauty that appears to me in terms of volume, of line, of mass, of weight, and through that beauty interpret my subjective impression. Nature is a mere pretext for a decorative composition, plus sentiment. It suggests emotion, and I translate that emotion into art. I want to expose the Absolute, and not merely the factitious woman."

Do you get it? It takes a bit of trying. Let's repeat the dose. Follow me, with Braque leading, to visit Dérain, whom all consider the most intelligent and earnest of the Fauves, an experimenter like Matisse, seeking to find the way for the youngsters to travel.



La Femme.

Braque.





Dérain.

Why, here's Dérain, now, across the street, with his model, a dead-white girl with black hair, dressed in purple and green, Dérain leaves her pouting, and we walk through a strange, crowded bourgeois neighborhood with Dérain, who is a tall, serious-looking young man, with kind brown eyes and a shrill blue tie. We plunge down a narrow lane-like passage, with casts amidst the shrubbery, into a big open studio, with a gallery at the end.

Look at his biggest picture, first, and have your breath taken away! He has been working two years on it. I could do it in two days. So could you, I'm

sure. A group of squirmy bathers, some green and some flamingo pink, all, apparently, modeled out of dough, permeate a smoky, vague background. In front sprawls a burly negro, eight feet long. Now notice his African carvings, horrid little black gods and horrid goddesses with conical breasts, deformed, hideous. Then, at Dérain's imitations of them in wood and plaster. Here's the cubical man himself, compressed into geometric proportions, his head between his legs. Beautiful! Dérain's own cat, elongated into a cylinder. Burned and painted wooden cabinets, statues with heads lolling on shoulders, arms anywhere but where they ought to be. A wild place, fit for dreams. But no place for mother.

Dérain, being a quiet man, doesn't care to talk, but he sits obediently for his photograph, holding the cylindrical cat in his arms, as I instruct him. He shows us portfolios of experiments in pure color, geometrical arrangements such as you did yourself in the second grade of the grammar school, tile patterns, sausage rosettes, and such.

But who am I, to laugh at Dérain? Have I not wondered at the Gobelin designs, at the Tibetan goddess of destruction, and sought for occult meanings in the primitive figures of the Mound Builders? Let Dérain talk, if he will be persuaded. What has he learned from the negroes of the Niger? Why does he so affect ugly women?

"Why, what, after all, is a pretty woman?" Dérain answers, kindly. "It's



Landscape by Dérain.

a mere subjective impression—what you yourself think of her. That's what I paint, another kind of beauty of my own. There is often more psychic appeal in a so-called ugly woman than there is in a pretty one; and, in my ideal, I reconstruct her to bring that beauty forth in terms of line or volume. A homely woman may please by her grace, by her motion in dancing, for instance. So she may please me by her harmonies of volume. If I paint a girl in the sunlight, it's the sunlight I'm painting, not the real girl; and even for that I should have the sun itself on my palette. I don't care for an accidental effect of light and shade, a thing of 'mere charm.'

"The Japanese see things that way. They don't paint sunlight, they don't cast shadows that perplex one and falsify the true shape of things. The Egyptian figures have simplicity, dignity, directness, unity; they express emotion almost as if by a conventional formula, like writing itself, so direct it is. So I seek a logical method of rendering my idea. These Africans being primitive, uncomplex, uncultured, can express their thought by a direct appeal to the instinct. Their carvings are informed with emotion. So Nature gives me the material with which to construct a world of my own, gov-



Picasso in his Studio.



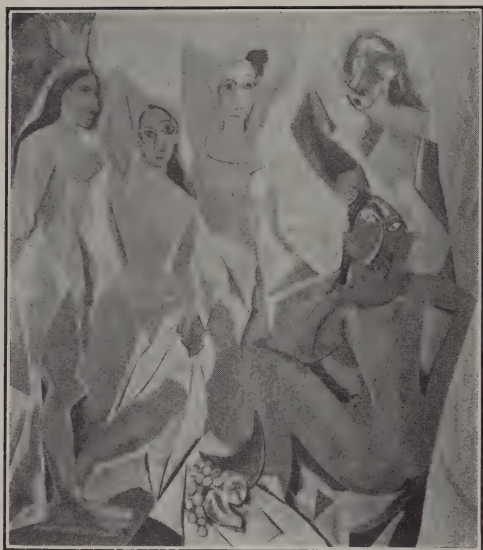
"La Femme," by Picasso.

erned not by literal limitations, but by instinct and sentiment."

Fine, fine—until one looks again at his paintings to get this appeal to sentiment. Then one is thrown back upon one's reason. Where is that subjective beauty that is his? In the cubical man? In the cylindrical cat? In the doughy bathers? But, as he is only an experimenter, the failure of the experiment does not prove the falsity of the principle involved. So much is already clear, though; these men are not attempting to transcribe the effect Nature makes upon the eye, as do the impressionists. It lies deeper than that.

And now for Picasso, of whom, here and there, one has heard so much. Pi-





Study by Picasso.

casso will not exhibit his paintings. He is too proud, too scornful of the opinions of the *canaille*. But he sells his work, nevertheless. That's the astonishing thing about all of them. Who buys? God knows! Germans, I suppose.

It is the most picturesque spot in Paris, where the wide Rue de Ravignan drops down the hill of Montmartre, breaks into a cascade of stairs and spreads out into a small open space with trees. Picasso comes rolling out of a café, wiping his mouth, clad in a blue American sweater, a cap on his head, a smile on his face.

Picasso is a devil. I use the term in the most complimentary sense, for he's young, fresh, olive-skinned, black eyes and black hair, a Spanish type, with an exuberant, superfluous ounce of blood in him. I thought of a Yale sophomore who had been out stealing signs, and was on the point of expulsion. When, to this, I add that he is the only one of the crowd with a sense of humor, you will surely fall in love with him at first sight, as I did.

But his studio! If you turn your eyes away from the incredible jumble of junk and dust—from the bottles, rags, paints, palettes, sketches, clothes and food, from the pile of ashes in front of the stove, from the chairs and tables and couches

littered with a pell-mell of rubbish and valuables—they alight upon pictures that raise your hair. Picasso is colossal in his audacity. Picasso is the doubly distilled ultimate. His canvases fairly reek with the insolence of youth; they outrage nature, tradition, decency. They are abominable. You ask him if he uses models, and he turns to you a dancing eye. "Where would I get them?" grins Picasso, as he winks at his ultramarine ogresses.

The terrible pictures loom through the chaos. Monstrous, monolithic women, creatures like Alaskan totem poles, hacked out of solid, brutal colors, frightful, appalling! How little Picasso, with his sense of humor, with his youth and devilry, seems to glory in his crimes! How he lights up like a torch when he speaks of his work!

I doubt if Picasso ever finishes his paintings. The nightmares are too barbarous to last; to carry out such profanities would be impossible. So we gaze at his pyramidal women, his sub-African caricatures, figures with eyes askew, with contorted legs, and—things unmentionably worse, and patch together whatever idea we may. . . .

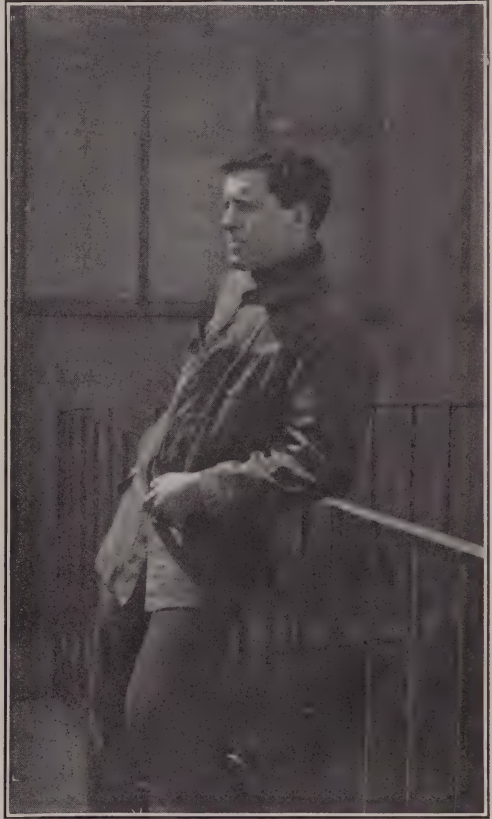
Then Picasso, too, talks of values and volumes, of the subjective and of the sentiment of emotion and instinct. *Et pat-à-tie et-pat-à-ta*, as the French say. But he's too fascinating as a man to make one want to take him only as an artist. Is he mad, or the rarest of *blaguers*? Let others consider his murderous canvases in earnest—I want only to see Picasso grin! Where has he found his ogrillions? Not even in the waters under the earth. . . . Picasso gets drunk on vermillion and cadmium. Absinthe can't tear hard enough to rouse such phantasmagoria! Only the very joy of life could revel in such brutalities.

But, if Picasso is, in life and art, a devil, he at least has brains, and could at one time draw. Not so, I fear, poor Czobel, a young Hungarian, almost a Hun, that is, what's not Vandal in him. He hasn't yet succeeded in getting himself talked about, but he did his worst to achieve infamy at the Salon des Indépendants this year. He even sacrificed himself in the attempt, painting his own

portrait for the enemy to howl at. And Czobel isn't bad-looking, either. He has Picasso's verve and courage tamed into a sort of harmless idiocy. As I waited for him, at the very end of the Cité Falguière, on the bridge that connects a row of studios built like primeval lake dwellings above the level of the gutter, he appeared, bearing a bunch of hyacinths. What a country, where such incarnate fiends on canvas appear, flower-bedecked, to welcome intrusions! I expected at least a vivisectionist, feeding on fried babies.

Czobel's studio was just behind Picasso's in the race for disorder. But, then, Czobel has to work and cook and sleep and hang his clothes and entertain his friends in his one room. Let's scrape the yellow ochre off a chair, wipe it with his shirt, and sit down, while Czobel nervously folds and refolds the black silk handkerchief about his neck, smilingly explaining that he cannot possibly explain. He is painfully inarticulate; he struggles like a dumb beast to express himself, then boils over into German.

In the center of the room is a revolting picture of a woman. Did I say woman?



Czobel.



Portrait de Femme.

Czobel.

Let us, in decency, call it a female. Czobel, no doubt, like Braque, would prefer to call it Woman. She is naked and unashamed, if one can judge by her two large eyes. Others of her ilk lie about. As a rule, they are aged 89. They have very purple complexions, enlivened with mustard colored spots and yolk-yellow throats; they have orange and blue arms. Sometimes, not often, they wear bright green skirts.

Czobel himself has a green throat, but it's only the reflection of his green canvas coat. Back to the plough, poor little Czobel, say I in English, and Czobel sweetly smiles.

But there was one picture I really wanted to buy. It satisfied some shameful, unnamed desire in my breast. It was called *Le Moulin de la Galette*, and is supposed (by Czobel) to represent that lively ball on a gala night. I had been there myself, but I saw no Aztec



children waltzing; I saw no ladies with eyes like gashes cut with a carving knife. All the figures were outlined with a thick line of color. His men were apparently all brothers—to the ape. But let us not take poor Czobel too seriously. Not even Les Fauves do that.

But Friesz is a man we must take seriously, for Friesz is a serious person, and, if he would, could paint. He is a tall, straight blonde, looking like a musician, with clear-cut features, waving

and out of it another room with many beautiful things. Amongst them, of course, are African-carved gods and devils of sorts. Since Matisse pointed out their "volumes" all the Fauves have been ransacking the curio shops for negro art. But Friesz has a quaint taste of his own, for, hung across the window panes, like transparencies, are funny old magic-lantern slides, "hand-painted," made in Germany. They might be examples of Matisse's later manner. Friesz



"TRAVAIL A L'AUTOMNE," BY FRIESZ.

hair and an air of gentlemanly prosperity. He is dressed sprucely, except for his rubber overshoes, evidences of the chill, watery Parisian spring. Very gentle, almost winsome. He has huge portfolios of reproductions of Cézanne's pictures, he has many of his own drawings, neatly mounted. He has the work of other painters framed upon his walls. It is evident that he is well-to-do.

His studio is long and wide and high, with ecclesiastical-looking Gothic doors,

is not only exquisitely courteous, he has a mind. He speaks well. Listen. We must not call it any longer a school of Wild Beasts.

"It is a Neo-Classic movement, tending towards the architectural style of Egyptian art, or paralleling it, rather, in development. The modern French impressionism is decadent. In its reaction against the frigidity and insipid arrangements of the Renaissance, it has gone itself to an extreme as bad, and contents

itself with fugitive impressions and premature expressions. This newer movement is an attempt to return to simplicity, but not necessarily a return to any primitive art. It is the beginning of a new art. There is a growing feeling for decorative values. It seeks to express this with a certain 'style' of line and volume, with pure color, rather than by tones subtly graded; by contrasts, rather than by modulations; by simple lines and shapes, rather than by complex forms."

We're getting nearer, now, though still the theory is apparently inconsistent with the practice. Friesz is the nearest to Cézanne; he's not yet quite clear of tonality. He has only just begun to go wrong. But let's drop in on Herbin, who paints still life and cafés. He's near at hand.

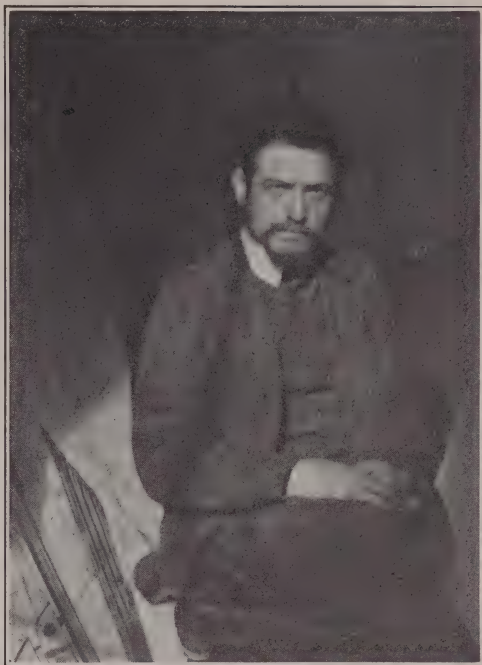
Barely around the corner, it's true,



Othon Friesz.

but what a contrast to Friesz's elegance and aristocratic surroundings! Herbin lives in a garret higher than Braque's, smaller than Czobel's, but as sweet and neat and clean as an old maid's bedroom. It is, in fact, bedroom as well as studio. A rose-colored hanging conceals his couch. There's but one small window, a skylight in the roof, but the place is pleasant with pots of flowers. A shelf is filled with bright-colored vases. A Chinese slipper holds a bunch of fresh green leaves. But the mark of the Wild Beast is over all the room, for Herbin's own pictures are hung there, and the wall is gaudy with palette scrapings. I back into them and have a green smooch forever afterwards to remember Herbin by.

Herbin is almost sad. Not that, quite, though; not even quite melancholy,



Herbin.

though he is poor and a hermit. He has no friends, and wants none, this small-featured, bright-eyed poet-person, with longish hair and sparse beard, immaculately clean in his dress, scrupulously



"Portrait de Femme" by Herbin.





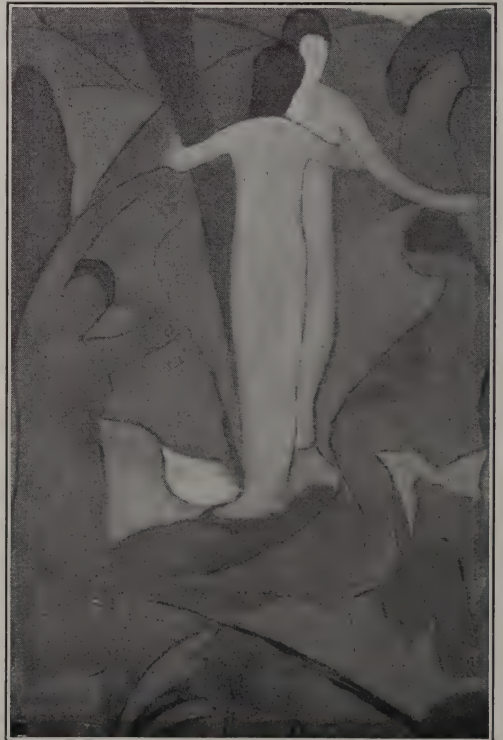
"Nature Morte" by Herbin.

polite in his hospitality. It seems unfair to describe him, for his aloofness was noble, yet I must draw my picture of life, as he draws his. He sees nobody, never goes to the cafés, is interested in nothing but himself and his work, and a good book or two. There was a completeness about his attitude that forbade pathos.

Nor can Herbin say much of the "movement," if it is a movement. To his mind, it is individualism, and every man works but for himself. He paints for his own satisfaction, at any rate, and the world may go hang. He paints the roundness and heaviness and curliness and plastic qualities of still life; he paints the thing-in-itself. He does not feel the necessity of drawing every twig on a tree, nor yet to present the mere appeal to the eye. Therefore, draw a curved line connecting all the points on the top of a tree, and you have a simple expression of Nature as it appeals to him.

"I don't distort Nature," he says; "I sacrifice it to a higher form of beauty and of decorative unity." And so we leave Herbin, who should be in the green fields, and not cramped under his scant skylight, and go away not quite knowing whether to envy or pity him.

So, finally, to Metzinger's abode. Now, Metzinger himself, like Friesz, has gone through the impressionistic stage; so he should know about this new idea. It is not as if he never were tame. He once painted that "mere charm," of which, it would seem, we are all overfed. Metzinger once did gorgeous mosaics of pure pigment, each little square of color not quite touching the next, so that an effect of vibrant light should result. He painted exquisite compositions of cloud and cliff and sea; he painted women and made them fair, even as the women upon the boulevards are fair. But now, translated into the idiom of subjective beauty, into this strange Neo-Classic language, those same women, redrawn, appear in stiff, crude, nervous lines in patches of fierce color. Surely, Metzinger should know what such things mean. Picasso never painted a pretty woman, though we have noticed that he likes to associate with them. Czobel sees them through the bars of his cage, and roars out tones of mauve and cinnabar.



"Baigneuse" by Metzinger.

Dérain sees them as cones and prisms, and Braque as if they had been sawn out of blocks of wood by carpenters' apprentices. But Metzinger is more tender towards the sex. He arranges them as flowers are arranged on tapestry and wall paper; he simplifies them to mere patterns, and he carries them gently past the frontier of Poster Land to the World of the Ugly so tenderly that they are not much damaged—only more faint, more vegetable, more anaemic.

What's Metzinger? A scrupulously polite, well-dressed gentleman as ever was, in a scrupulously neat chamber, with a scrupulously well-ordered mind. He is as complete as a wax figure, with long brown eyelashes and a clean-cut face. He affects no idiosyncracies of manners or dress. One cannot question his earnestness and seriousness or sincerity. He is, perhaps, the most articu-



"La Gargotte," by Chabaud.



Chabaud and "La Place aux Affiches."

late of them all. Let us not call him prim.

"Instead of copying Nature," he says, "we create a *milieu* of our own, wherein our sentiment can work itself out through a juxtaposition of colors. It is hard to explain it, but it may perhaps be illustrated by analogy with literature and music. Your own Edgar Poe (he pronounced it 'Ed Carpoe') did not attempt to reproduce Nature realistically. Some phase of life suggested an emotion, as that of horror in 'The Fall of the House of Ushur.' That subjective idea he translated into art. He made a composition of it."



"So, music does not attempt to imitate Nature's sounds, but it does interpret and embody emotions awakened by Nature through a convention of its own, in a way to be æsthetically pleasing. In some such way, we, taking our hint from Nature, construct decoratively pleasing harmonies and symphonies of color expression of our sentiment."

I think that there I got nearest to it. Let's regard their art as we regard Debussy's music, and Les Fauves are not so mad, after all; they are only inexperienced with their method. I had proved, at least, that they were not charlatans. They are in earnest and do stand for a serious revolt. Now, a revolt not only starts an action, but a reaction, and these Wild Beasts may yet influence the more conventional schools. Whether right or wrong, there is, moreover, something so virile, so ecstatic about their work that it justifies Nietzsche's definition of an ascendant or renascent art. For it is the product of an overplus of life and energy, not of the degeneracy of stagnant emotions. It is an attempt at expression, rather than satisfaction; it is alive and kicking, not a dead thing,

frozen into a convention. And, as such, it challenges the academicians to show a similar fervor, an equal vitality. It sets one thinking; and anything that does that surely has its place in civilization.

Men must experiment in art and in life. Some may wander east or westward from the beaten track, some reactionaries may even go back southward along the trail of the past. But a few push north, ahead of the rest, blazing out the way of progress for the race. Perhaps these Wild Beasts are really the precursors of a Renaissance, beating down a way for us through the wilderness.

But there's the contrast between their talk and their work! It doesn't quite convince me yet. But, then, I'm not a painter, and perhaps none but a painter can understand. There's my clue! And so, as a last resort, as the best way, too, I've bought a color box and brushes. I am going to try it out practically on canvas. That's the only test. I'm going to be a Wild Beast myself! For, mind you, they do sell their paintings, and I may sell mine. Who knows!

*Gelett Burgess.*



Andre Dérain.

# The Evolution of Architectural Ornament

## III.

### Ornament with a Foliage Basis—Miscellaneous Foliage of the Classic-Renaissance School

There is little foliage ornament to be found in connection with Grecian architecture (or with that of any of the previous great architectural epochs which cannot be classified under the two heads already dealt with). Subsequently, however, the case was very different; the foliage became more natural and more varied in its origin. The Roman spirit seems to have permeated it, as distinct from the Grecian, and the Roman spirit was one of freedom. Just, therefore, as the conventionalized work of the whole of the Roman and Renaissance periods, whether in Italy, France, Germany or England, had its origin in the earlier Egyptian, Assyrian and Grecian, so the naturalesque work of these same countries was founded upon the native Roman, which appears to have evolved as a distinct and independent style of carving about the second century A. D. This is not to say that the work is wholly naturalesque, but it is based upon other than traditional forms, and, where conventionalization is attempted, it is the conventionalization of foliage which is indigenous to the country where the work was executed, or traditionally only so far as it goes back to Italy and Rome.

In Roman work itself there appear to be three types of this foliage, all of which were revived at subsequent dates and in other countries in one form or another. Treating them not chronologically, but according to classification, which may perhaps be novel, but which at the same time seems applicable, the first type—the purely natural—is illustrated on the lower portion of a Roman column which now stands in the Victoria and Albert Museum. The base is formed of acanthus and plain leaves alternately, but immediately above them there rises a branch of ivy, with leaves and berries springing perfectly naturally therefrom, and twining round the columns.

Higher up, above a fluted section and a narrow band of reversed anthemion, the ivy leaf is found again, arranged this time somewhat conventionally, with a small bunch of berries where each leaf springs from between two others. Above again is a smaller band of leaves, but without the berries. These two upper bands represent a type of flat conventionalized treatment of a highly decorative character, which has survived to the present day, and is perhaps more frequently found now than it has been at any other period. It is illustrated again in Fig. 57, which shows two large ram's-head pseudo-Ionic capitals now preserved in the British Museum. In each case the echinus of the capital, instead of being enriched with the egg and tongue, as is usual, has preserved its rounded contour, and has, carved upon this, a series of perfectly natural oak leaves and acorns, only made decorative by arranging them so that each acorn appears to spring from beneath a pair of leaves, in the same way as ladies often arrange leaves and flowers or berries on Christmas decorations by sewing them to a background. The carving is coarse and indicative of a late period of Roman work.



Fig. 56. Roman Column.  
Victoria & Albert Museum.





FIG. 57. ROMAN NATURALESQUE CAPITALS.

British Museum.

The third great division of the Roman miscellaneous foliage is that of the wreath or swag, of which a small example is shown in Fig. 58, as it occurs upon the side of the urn from Syrenaica, which is preserved in the Greco-Roman

basement of the British Museum. In this instance the wreaths are supported by youthful figures and calves' heads, but no rule in this respect can be laid down.

The great point to note is that the

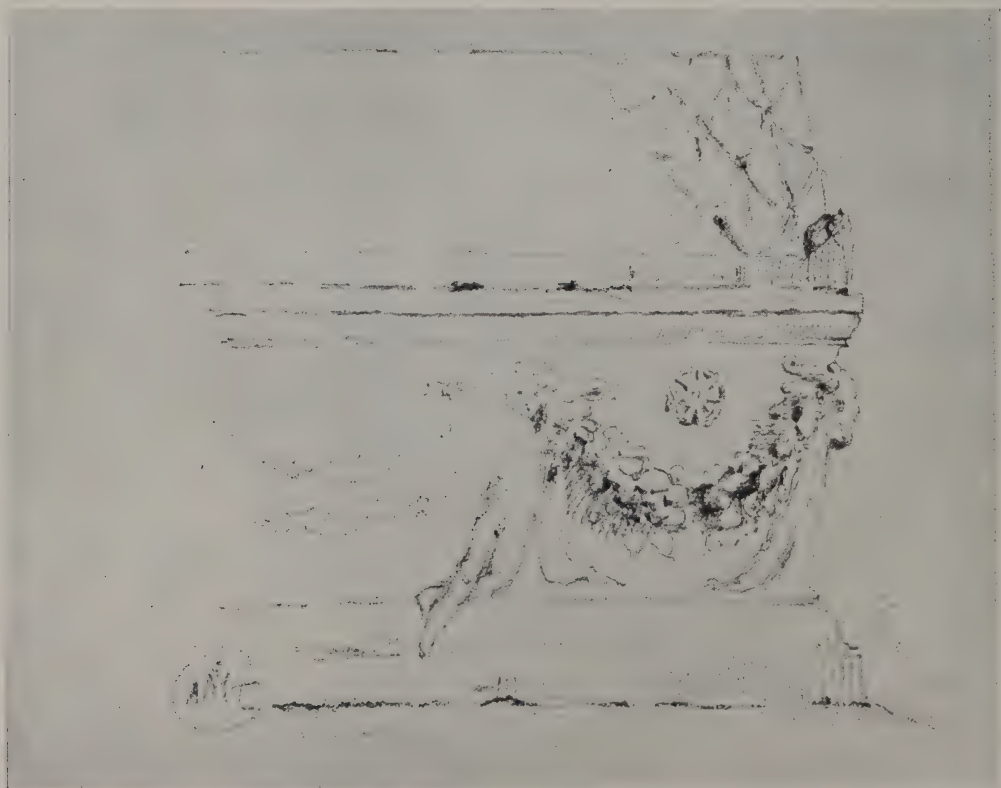


FIG. 58. ROMAN URN—SYRENAICA.

British Museum.

wreaths themselves are always in high relief and consist of natural foliage and fruits. The fig and the olive play an important part; the appearance is actually that of a rope of fruit and foliage suspended from each end. There is no attempt to conventionalize whatever, and frequently ribbons are found at the supports, showing pretty conclusively that these leaves are the representations in stone of a common form of decoration with fruit itself.

The scroll is also sometimes found in Roman work, but it is perhaps more prominent as based on the acanthus than as belonging to the school of miscellaneous foliage. It does appear, however, in this connection in Byzantine work, and so does a system of foliage ornament springing from a center line. There are important types which will be found to be used to a large extent in the Renaissance period, but for the moment attention may be concentrated upon them as they appear on one of the Byzantine shafts standing in the great piazza of St. Mark's at Venice (Fig. 59). The scroll upon the shaft itself may be described as double, the two side scrolls being symmetrical about a central panel, whose arrangement is axial. The leaves here are those of the vine, while grapes are the fruit. In the capitals, however, it is not so easy to distinguish what the leaves are intended for, but the arrangement is again symmetrical. Of course, the carving is of the Byzantine character, the background being incised. This compels a certain amount of conventional treatment, as it is only by true carving that natural leaf, flower and fruit forms can be shown with their proper modeling.

Each of the types of ornament thus established in Roman times was resuscitated during the Renaissance period and used in many countries and at different times. As a general rule, it may be conceded that each was indicative of some particular period or of some individual artist's work, the latter being in all probability of more influence than the former. It is well to take each type in the order in which it has been dealt with just now.

Purely natural carving, illustrative of

leaves and flowers and fruit, is not found to a very large extent in Italy, but occasionally an example can be pointed to, it being in every case possessed of extreme beauty. The example taken for illustration (Fig. 60) occurs on a door in the Via S. Stefano, Bologna. The door itself is enriched with panels, the ornamentation of which is in beaten bronze representing natural vine leaves and tendrils and bunches of small grapes in flowing patterns which depart but little from the method of growth of the natural vine. The marble jamb is also enriched with natural foliage, the border panel in this instance representing the lily. The work is altogether of the utmost delicacy, though the design is controlled by the material used, the bronze admitting of much finer treatment than the marble.

When natural treatment, such as this, was attempted in France or Belgium, it often lacked even the formality of being enclosed in a panel, as in the Italian example just cited, except in small instances, such as Fig. 59. Byzantine Pier outside St. Mark's, Venice. Gertrude, Louvain (Fig. 61), which are transitional from Gothic to Renaissance in their general design. Here the enrichment is indicative of the oak leaf rather than any other, though the scroll springs from something which may perhaps be traced back to the acanthus, and terminates in a volute which

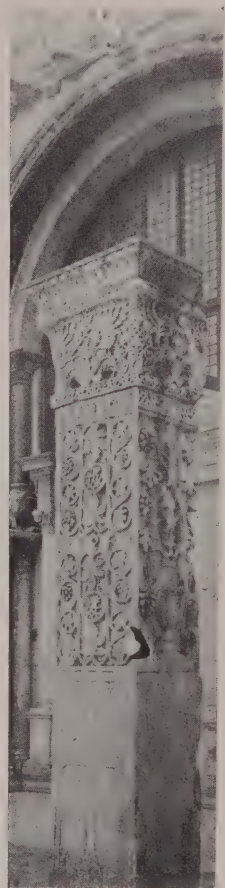


Fig. 59. Byzantine Pier outside St. Mark's, Venice.



is devoid of foliage entirely. The panels are all different, however, oak and vine leaves being employed more than any other.

Some extremely fine confessional boxes, amongst the finest in the world, which line the whole of the walls of St. Loup, Namur, are illustrative of natural foliage unenclosed by a frame. They are carved in the freest possible way. In the one which is illustrated (Fig. 62), the foliage is shown twining round the

work on a flat surface than of what it really is—true wood carving, not applied at all, but with the general surface worked down below its level. Some people contend, and with considerable show of reason, that the absolutely natural representation of natural objects is bad artistically. At any rate, it cannot be questioned that, while it is exceedingly beautiful as used at St. Omer, it is hardly adapted for the material there employed. In some architectural styles, the

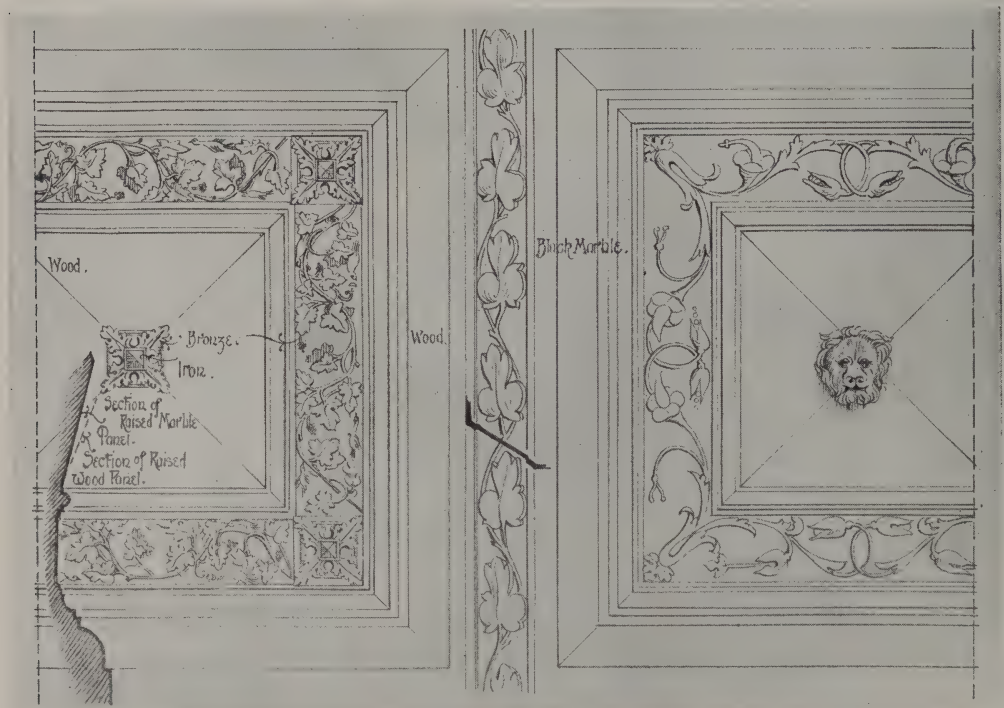


FIG. 60. DETAILS OF A DOORWAY—VIA S. STEFANO.

Bologna.

twisted column, and consists of all sorts of natural leaves and flowers in comparatively low relief. The date of this work is about 1640; thus it is considerably later than that at Louvain, just referred to.

Of about the same date, in all probability, are the choir stalls in the Cathedral of St. Omer, near Calais (Fig. 63). Here the foliage is in even lower relief than at Namur, and is spread as a light pattern over the paneling, having much more the appearance of applied plaster

tendency to perfectly natural representation is considered to indicate a period of deterioration, however rich or however delicate the effect. On the other hand, while at Namur we have true oak carving, the twisted columns themselves look weak, and are unsatisfying; while at St. Omer, though the carving looks as if it were applied or as if it would be better if executed in beaten metal, the structure lines are preserved and there is plenty of rest for the eye, giving an artistic sense of fitness to the whole.

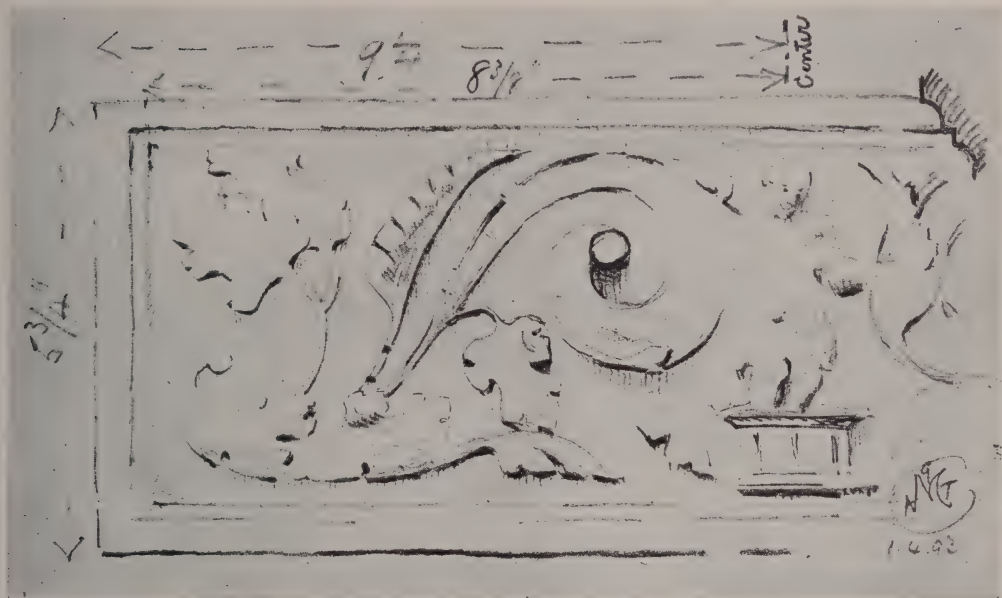


FIG. 61. OAK PANEL, CHOIR STALLS, ST. GERTRUDE.

Louvain.

The wreath or swag became a much more prominent enrichment during the Renaissance period than the purely natural foliage. It has been used largely, particularly on great buildings and generally in very high relief, and examples of it are to be found in all countries during their strongest Renaissance period. Fig. 64 illustrates an example from a church in Rome, where it occurs in a frieze round the building, just beneath the lower entablature and on a level with the capitals of the lower order. The swags are supported from knots of ribbon, and have terminal drops which consist of fruit, just as do the wreaths or swags themselves, the segmental space above the latter being filled in with Cupids' heads. The carving is entirely of a bold type, but yet not over-emphasized, having, as is usual in Italy, a perfect sense of relationship of part to whole, and not claiming too much attention for itself. This class of carving does not seem to have been employed to so great an extent in France as it was in England, but it was adopted there to a considerable degree, particularly in the work of Wren and his successors. The idea of the wreath had, however, reached

England long previously. It is to be found in Elizabethan work, particularly on such tombs as that illustrated in Fig. 65, which at one time stood in the Rolls' Chapel in Chancery Lane, London, but disappeared when that chapel was destroyed some ten years ago. There is a wreath over each of the arched openings, suspended from the center by a head, and itself consisting almost entirely of fruit, amongst which grapes are prominent; but the wreath is not continuous, as in the greater examples, the fruit be-



Fig. 62. A Confessional Box, St. Loup. Namur.





Fig. 63. Choir Stalls—St. Omer Cathedral.  
(Near Calais.)

ing broken up into bunches. This method of treatment is somewhat uncommon in the actual swags, but it is often to be found, in English work, in the drops from their points of suspension, and similar treatment was occasionally adopted in France, an example being shown in the woodwork of the external door of St. Maclou at Rouen (Fig. 66). The grape again appears, as well as apples and other fruits of the district; in fact, its occurrence is so universal, even in England, as to show that it must have been very much cultivated, as it still is, over a great part of Europe. It may be noticed in respect, of this illustration, that the white line represents

an ivory two-foot rule, which was placed against the door, to indicate its size, when the photograph was taken. The bunches of foliage here are quite distinct, each bunch being tied round at the stalks, and all having the appearance of attachment to a central stem or rope. This work belongs to the end of the seventeenth century, and is contemporaneous with that by Wren's great carver, Grinling Gibbons, from whose studio an enormous amount of work was turned out, both in stone and wood. It is not all of the same type, for although the master exercised a general control, it is obvious that many hands were employed and that each gave his own individuality to that which he carried out. Thus while there is a great deal of powerful stone-carved foliage, mainly wreaths, on the exteriors of the London churches, and particularly upon St.



Fig. 64. Entrance to a Circular Church in Rome.



FIG. 66. EXTERNAL DOOR, ST. MACLOU.

Rouen.



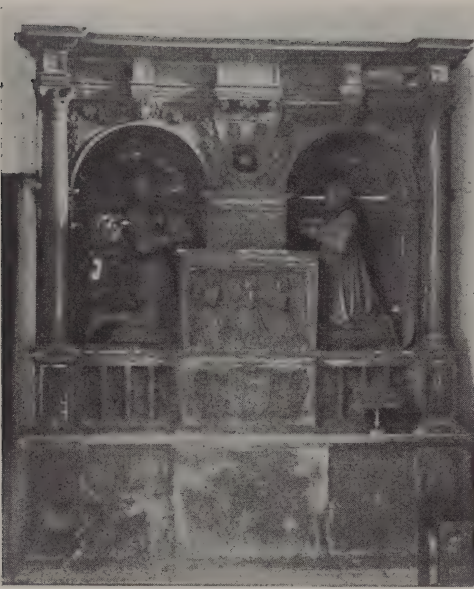


Fig. 65. Elizabethan Tomb, formerly in the Rolls' Chapel.

London.

Paul's Cathedral, there is an equally large amount of comparatively delicate wood carving in the interiors. In much of it the foliage is in the form of heavy swags, but occasionally it is naturalistic, though the swag or wreath suggestion generally underlies the design. This is the case with the carving upon the pulpit which now stands in the Church of St. Margaret, Lothbury (Fig. 67), which is, as it were, a combination of the purely natural treatment with the wreath. The carving is slight in character, and the central portion stands right away from the background. As will be seen, there is a suspended wreath with its drops, as usual, but the flowers are lightly strung together and are of all descriptions, the rose and lily being clearly indicated, while the grape occurs in the lower portion of the drop.

The scroll has always been largely employed in Renaissance foliage ornament. It is admirably adaptable to either light or heavy treatment, but has been mostly introduced in a comparatively light form. An example of its use in early Italian work is shown in the frieze of the Florentine wall fountain (Fig. 68). The main stem in this instance is little more

than a finely drawn line, the leaves and flowers being in relief and the scroll terminals being, in all cases, flowers. Almost identically, the same treatment was copied in the French work of the François I. period, as may be seen in the well-known fireplace from the Château de Blois, illustrated in Fig. 69. While the scroll is somewhat more richly covered with leaves and the main stem scarcely so fine as in the early Florentine work, it still remains the most delicate piece of enrichment on this fireplace, which is perhaps somewhat over-elaborated above the frieze. Unfortunately, the photograph cannot represent the glowing color and gilt with which it is enriched, and by which, in the opinion of a considerable number of people, it is largely spoilt, being rendered thereby unnecessarily gaudy.



Fig. 67. Oak Carving by Grinling Gibbons on front of pulpit—St. Margaret's, Lothbury.

Some Belgian treatments of the scroll are shown in Fig. 70. The fireplace to the Burgomaster's room in the Hotel de Ville at Brussels is made up of pieces of old wood carving, and, consequently, the lower and the upper frieze are not of quite the same character or date. The lower one partakes of the type already referred to, with the fine line in clear evidence, while in the upper scroll this has been almost covered with leaves, a sure indication of later work. The scroll upon the hanging decoration is modern, and is so confused in design as to compare badly with the older work, though in reality the brilliancy of the color and the perfection of the execution of the needlework prevent this defect from being very noticeable.

A modern English adaptation of the scroll upon a small scale is shown in Fig. 71. It occurs as one of the panels in a screen separating the nave of St. Margaret's, Lothbury (close to the Bank



Fig. 69. Fireplace—Château de Blois.



Fig. 68. Florentine Wall Fountain.  
(Victoria and Albert Museum.)

of England), from the Morning Chapel. The foliage is unrecognizable, and it is little more than a poor attempt to harmonize modern carving with the rich work of Grinling Gibbons, of which there is so much in this church. It is flat in treatment and not particularly well composed, the leaves being over-heavy in comparison with the flowers.

Another description of free scroll treatment is that shown in Fig. 72, as enriching the irregular space at the side of the circular panel in a monument in the cloisters of S. Gregoris Magno, Rome. This sort of thing was quite common in Italy, and was copied in the earlier Renaissance work of France and Belgium, but has not often been seen in England. The curves are all of a graceful character, and are designed so as to well cover the space without much interlacing or crossing, and use is made both of the cornucopia and dolphin in this particular instance, as well as of foliage branching from a slender stem. The tendency is to develop a liking for free curves and an appreciation for their beauty, which was satisfactory enough here.





Fig. 70. Fireplace in Burgomaster's Room,  
Hotel de Ville,  
Brussels.

Later on, in France and in Belgium particularly, the pleasure of revelling in curved forms seems to have drawn the designers somewhat away from basing their work upon any structural center or line, and the scrolls and wreaths of the Rococo period, as illustrated in the door from the Grande Rue Notre Dame at Abbeville, shown in Fig. 73, indicate how far this tendency could be carried. The moulding of the upper panel is itself designed with an outline of free curvature and enriched with foliage, while a wreath of natural flowers is wound round and round its upper portion in such a way as to suggest that the moulding is independent of the door, which,

of course, it is not; the effect is rich, but not quite satisfying when critically examined. At the same time the leaves lost definite character. This is perhaps more clearly indicated in the Rococo gable at Malines, of which a sketch is given in Fig. 74, while the stems, if they can be called such, have themselves

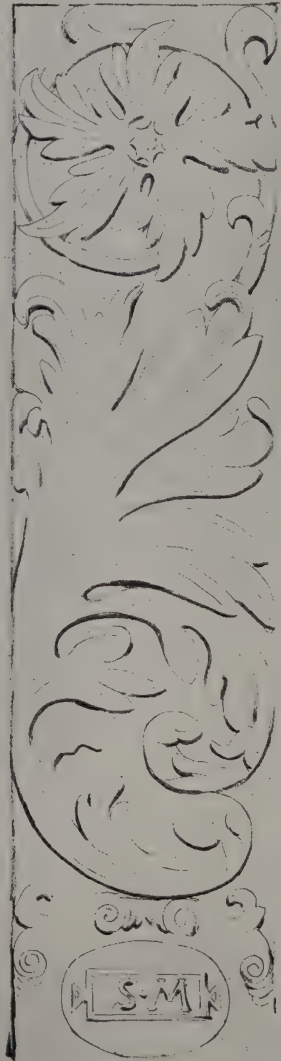


Fig. 71. Wooden Panel Screen, St. Margaret's,  
Lothbury.

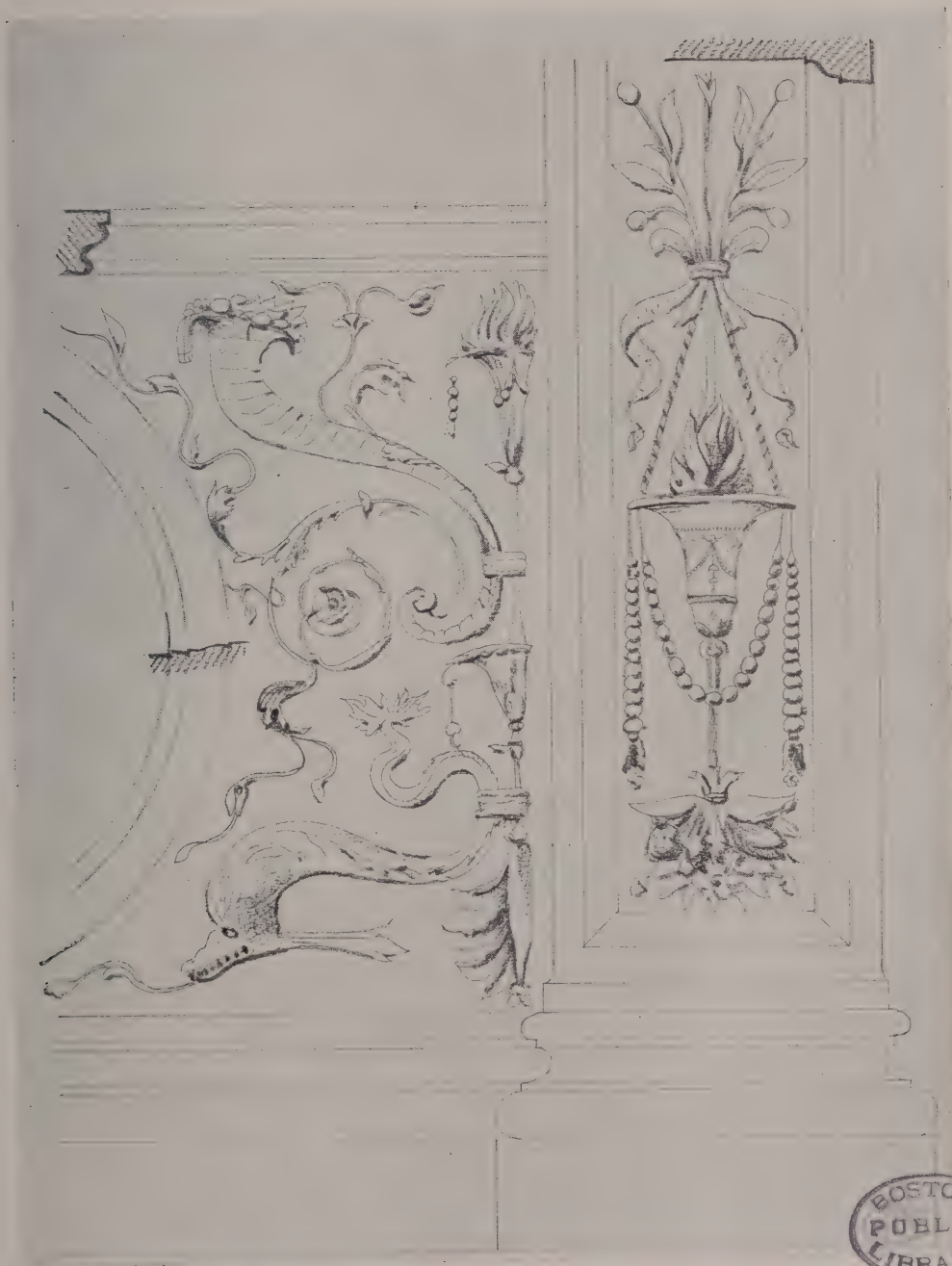


FIG. 72. PORTION OF A MONUMENT IN THE CLOISTER OF S. GREGORIS MAGNO.  
Rome.



ument illustrated in Fig. 76, and likewise in those of the Florentine wall fountain (Fig. 68), already referred to, that the

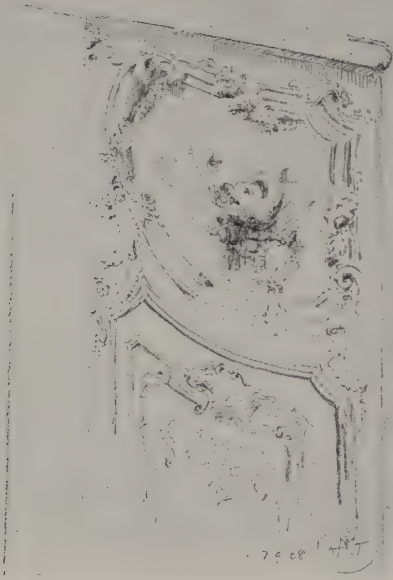


Fig. 73. Rococo Door.  
Grande Rue Notre Dame, Abbeville.

scroll terminations or form portions of the architrave mouldings of window openings, in one case, at least, of a contorted form. This class of work was almost entirely confined to wood carving and plaster, in which latter material the gable at Malines has been carried out. It is most fitted for decorative work, a very fine example being the foot of the newel of the staircase in the older part of the well-known Hotel de l'Empereur, at Brussels, shown in Fig. 75. Unfortunately, at the time when this sketch was made the proprietor was talking of rebuilding the older part of the hotel, so that possibly the staircase may now have been destroyed; if so, it is to be hoped that this newel has been preserved or introduced into a new staircase.

Panel decoration, based upon a center line, though rare in true Classic work, was the most important of all during the period of the Italian Renaissance. In many instances it illustrates very clearly the well-known fact that the early Renaissance workers were primarily gold and silversmiths and accustomed to decorating metal work in repoussé. Consequently, it is frequently found, as is shown upon the side panels of the mon-

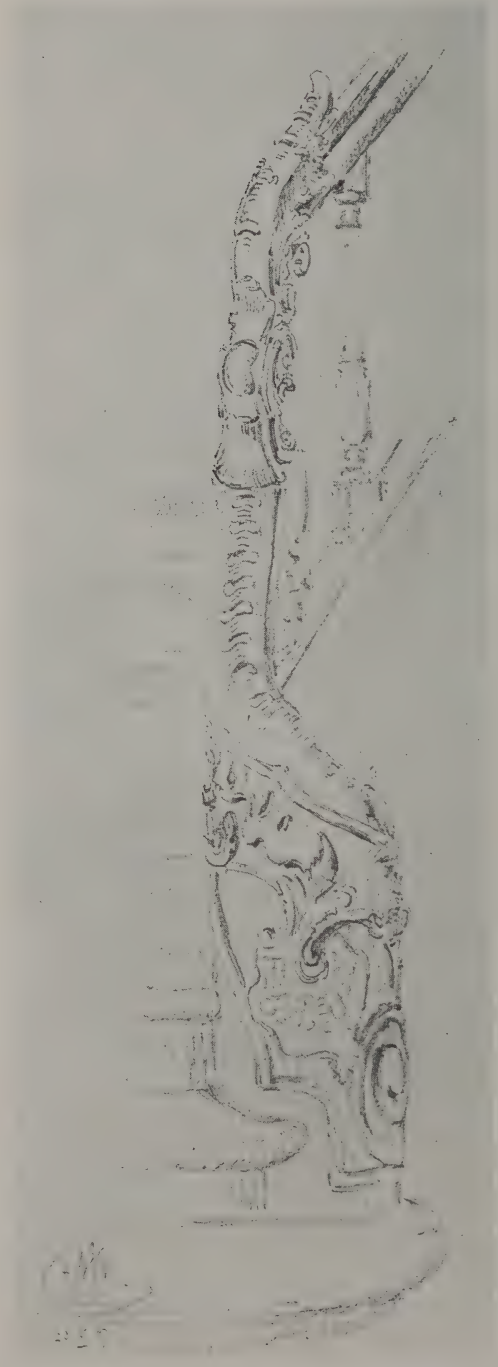


Fig. 75. Staircase Newel, Hotel de l'Empereur.  
Brussels.

foliage rises like a plant from a vase, while other vase forms are introduced here and there upon the center line. They never occur, however, in the side scrolls; these, as indicated in this instance and also in the small portion of the enrichment of a doorway of the Church of Sta. Maria Novella at Florence (Fig. 77), are all of foliage, with leaf, but sometimes with flower termi-

which exists in Italy is extraordinary, as compared with the effect produced. The cost must have been excessive, as delicate work like this, executed in a hard material, such as marble, and appearing as if it stood upon a flat background which had to be worked down from a higher surface, must have been excessively costly, the process being necessarily slow. The workmanship, it need

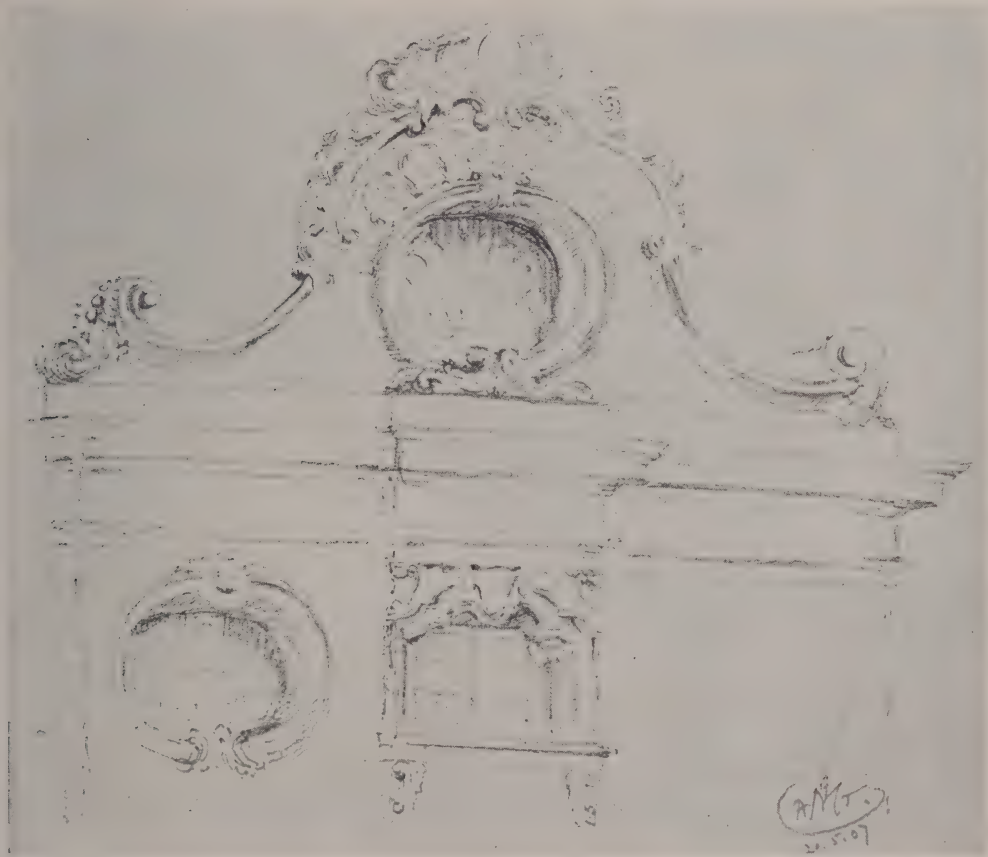


FIG. 74. ROCOCO GABLE.

Malines.

nals. The line of the scroll is fine, and the leaves are of varying but always heavier relief, giving an effect like that of knotted lace to the surface. The date can be traced with considerable accuracy by noting to what extent the main line is obscured by the covering leaves, and whether anything else besides foliage, such as cornucopiæ or masks, are introduced. The amount of this decoration

hardly be said, was always of the very highest character.

Figs. 78 and 79, showing panels from Modena and Padua, respectively, illustrate how the main stem gradually became obscured by covering it with foliage, but in each case the almost universal idea of growth has been indicated, the foliage rising either from a vase or from a bunch of leaves, suggesting a root





Fig. 76. Italian Monument, C. 1480 A. D.  
(From a cast in the Victoria and Albert  
Museum.)

at the foot, and terminating with a central flower which in these instances takes the form of the Anthemion, though it does not universally do so. It is sometimes possible to recognize the flowers which have been conventionalized and the foliage also, but this again is by no means invariable. A considerable amount of freedom is displayed, and the designers have taken a large amount of license, so that, except that one recognizes that the forms are naturalesque, there is no more to be said.

A fine example of a rightly decorated

Italian altar-tomb now stands in the north transept of Dol Cathedral, in Brittany. The pilasters carrying the entablature to the altar and also those carrying the main entablature are both decorated on the central line system but the enrichment of the smaller pilasters is not carved but formed by incising the marble and filling the hollows with a black substance level with the marble face, thus giving the effect of an inlay. Occasional examples are to be found of the inlaid material, consisting of colored marble, but, as a general rule, a black composition is used. Where it is employed externally, lead has sometimes been found to have replaced the composition.

*G. A. T. Middleton, A. R. I. B. A.*



Fig. 77. Enrichment of Jamb of Principal  
Doorway, Sta. Maria Novella, Florence.



Fig. 78. Pilaster in the Chapel of the Duomo Modena.

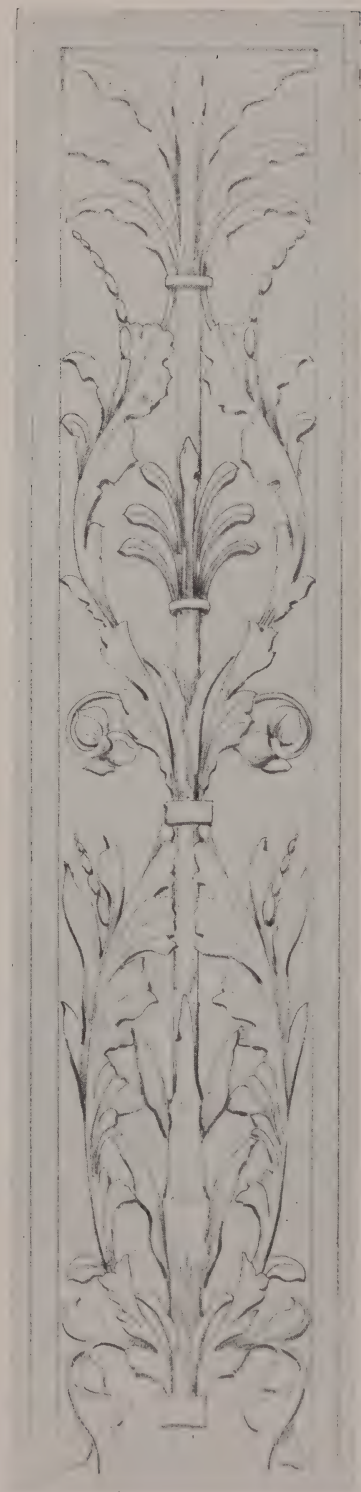


Fig. 79. Portion of a Pilaster in the South Transept Doorway, Sta. Giustina, Padua.

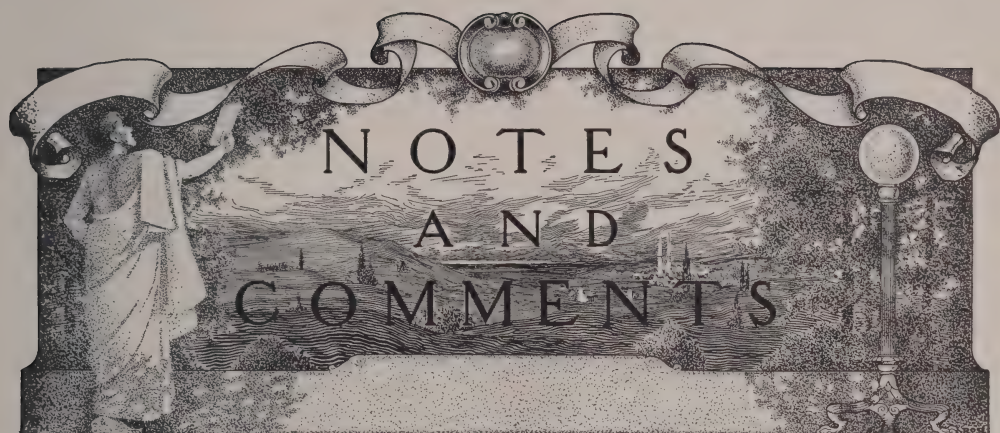




THE WHITEHALL BUILDING EXTENSION.

Clinton & Russell, Architects.

View from the corner of West Street and Battery Place, showing the present Whitehall Building, 19 stories high, overtopped by the new 31-story structure, extending through from West to Washington Street, now in course of construction.



**A. I. A.  
CIRCULAR OF  
ADVICE  
RELATIVE TO  
COMPETITIONS**

defines its position as follows: "The Institute does not presume to dictate the owner's course in conducting competitions, but aims to assist him by advising the adoption of such methods as experience has proved just and wise."

This circular, the mandatory instructions of which are binding on all members of the Institute who enter competitions is a clear, businesslike and comprehensive statement of the many important factors entering into architectural competitions. The limited form of competition is preferred and the employment of a professional adviser strongly urged. For work of importance a jury of at least five architects, some of whom may be chosen by the competitors, is advised and, in addition, when necessary, an expert on the special problem involved. For less important work a jury of three is deemed sufficient. We reprint below the mandatory instructions relative to competitions to which alone the Institute will give its sanction:

"The approval of the Institute must be withheld from a competition

(a) If it appear that the program is not in consonance with the law;

(b) Unless the program excludes from the competition all persons who cannot in advance establish to the satisfaction of the owner their competence to design and execute the work;

The American Institute of Architects issued a circular of advice relative to the conduct of architectural competitions, which went into effect March 30 of this year. In it that body

(c) Unless the program provides for a professional adviser as called for in Article 2, or for a competent jury as called for in Article 7, or for both;

(d) Unless the program constitutes definite contracts explicitly covering all the points set forth in Article 10.

Exceptions to Articles (b), (c) and (d) may be made only when and in so far as their provisions are contrary to law.

Competitions held by the Treasury Department of the United States under the Tarsney Act and International competitions do not require the approval of the Institute.

An appeal from the decision of any subcommittee may be made to the Standing Committee on Competitions of the American Institute of Architects and thence to the Board of Directors."

**THE CROWN  
OF THE  
SKYSCRAPER**

The problem of the cornice, especially on the buildings in the crowded precincts of the city, where the architecture of the houses is confined to mere embellishment of the visible front, remains in a chaotic condition. While infinite pains have been taken to accommodate features and details of different historic periods to contemporary conditions with some degree of success, the treatment of the crowning member of the tall building remains the *bete noir* of the designer. Even such progressive architects as Louis H. Sullivan, Cass Gilbert and Robert D. Kohn have done little towards solving the problem.

Below we print what, in our opinion is a



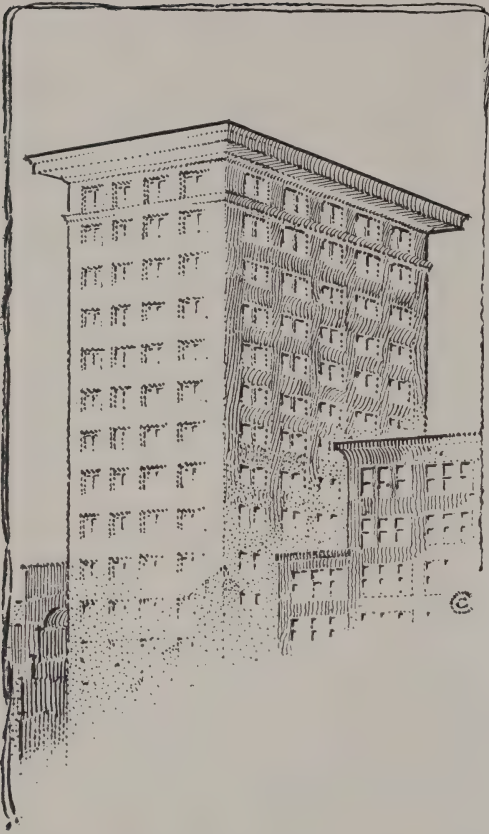


Fig. 1. The "skyline" type of cornice, regarded as useless and defective aesthetically.

step in the right direction. The author, Mr. Charles Cressey, of Los Angeles, Cal., is an English architect who recently came to this country to establish himself in the practice of his profession. Success to him, if all his ideas are as seriously conceived as his suggestions on cornices. The profession of the architect never stood more in need of conscientious thought of this sort and swift mental action thereon than it does at present. Mr. Cressey's suggestions, which are commended to the attention of architects, should start the architectural ball a rolling in a new direction.

Could it be, that every architectural feature of a tall building, might speak in its own defense, that dominating feature of so many designs, the cornice would probably be the one to find the greatest difficulty, in justifying its existence. So solidly founded in traditional design is this feature that it is with hesitation one dares to question its necessity or propriety in modern design. The skyscraper, however, is an instance

where every detail of historic design may legitimately be questioned, and particularly the magnified details from the venerable "Orders."

Though instances do occur, where practical shade and shelter are secured from the use of the classical cornice, it is doubtful whether this aspect has much to do with its general adoption on high buildings. Is there in fact, a single practical advantage which can be urged in favor of the spreading cornice usually found crowning a skyscraper? On the other hand, there can be no doubt that its practical disadvantages are numerous. What, for instance, could be more unsatisfactory structurally, than the eccentric loads and complicated framing, connected with the support of a heavy overhanging mass, which at its best, *DOES NOTHING*, is of dubious effect, artistically, and which places purely optional weight where it decreases rather than increases the general stability of the building. That this matter of undesirable load is recognized, is obvious from the use of painted shams, "just

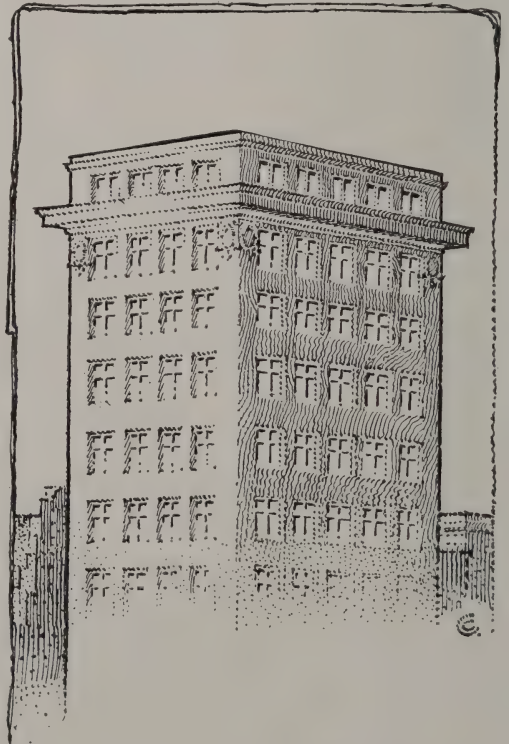


Fig. 2. A type of cornice placed below the "skyline" and balanced by a visible mass above; suggested as better design (with a cornice) than Fig. 1. In this type, the cornice may develop a practical purpose as a balcony and affords scope for new departures in design.

like stone," upon buildings where cost has evidently not been the serious question. I would here disclaim any antipathy to the use of metal in the abstract, if it can be presented in honest and seemly guise. Surely, stone detail is an insult to a material capable of good results on its own merits.

Whatever may be the material of the cornice, it is always more or less a troublesome feature, particularly on limited frontages. There must be few architects, who have not, at one time or another, cursed, politely perhaps, the fact that they dare not overhang a neighbor's land. Is not every city full of examples of stunted ends and painful expedients to "stop" the cornice which no ingenuity can make "return." True, many buildings would have less pleasant wall surface next the boundary lines, were it not for the insistent demand of the cornice terminating above. True, too, it is that much valuable light is lost for this same reason.

American cities are, unfortunately able to show many instances of the unbalanced effects due to prominent cornices appearing on only one or two faces of buildings in full view. Even where conditions permit a continuous cornice, how rarely does the building appear truly plumb—a result not unexpected, when one considers that the eye, traveling upwards from a base thinned to its limit, cannot pass the great cornice overhang to anything above substantial enough to correct the illusion. Probably the best effects occur where the cornices form subordinate features only and are well below the sky-line. The eye, either from custom or by



Fig. 3. Type of cornice which crushes the upper windows and frankly fails to terminate architecturally. An attached feature neither useful or truly decorative.

instinct, does not seem aesthetically satisfied without an apparent counterbalance above a projecting cornice, and as this is an ordinary structural requirement, it appears to be logical that the cornice should *not* form the sky-line.

The habit of using strongly defined cornices is exercising a bad influence on the

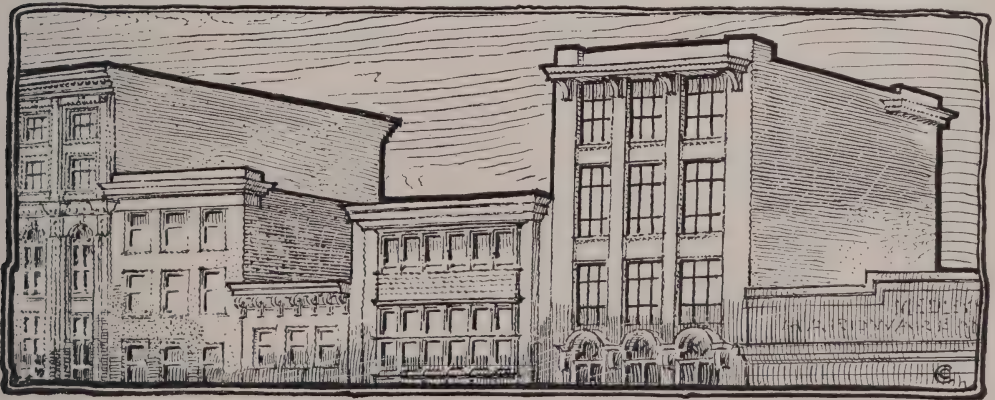


FIG. 4. CHAOS IN CORNICETOWN.

Many minds make many a cornice, but fail to secure the quiet charm of traditional "horizontal" design. With cornices eliminated and "verticals" the main motive, rugged mass and fretted "skyline" hold infinite possibilities for beauty.



appearance of cities, as tall buildings of single frontage become more numerous. Usually there is little or no regard for harmony or continuity of level of adjacent cornices. A few years ago the Architectural Record published an article on the value of the curve in street architecture, and the

ally reducing weight of the structure. The above thoughts lead the writer to the conclusion that a truer architectural crown to the skyscraper would be gained if the projecting cornice could be *entirely omitted*, and the powerful vertical lines allowed to dominate, unaffected by the abrupt and limiting cornice edge. The designer might then find scope for pleasant fancies in pierced parapets and other open-work, expressing protection and enclosure of the roof, and above all, gain a restful merging of the mass of the structure into infinite space.

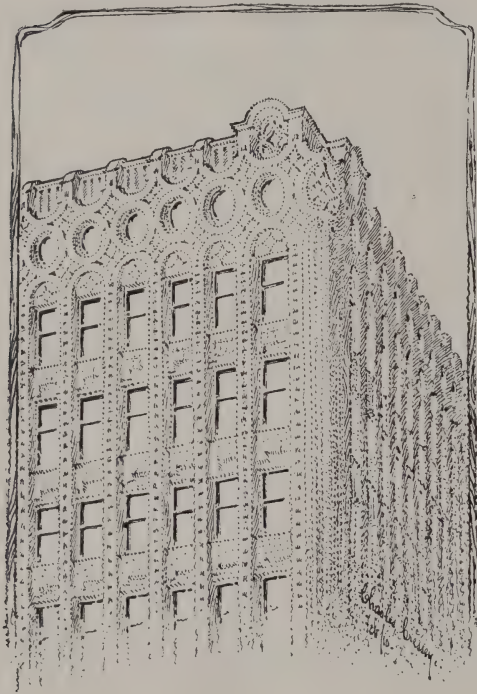


Fig. 5. Prudential Building, Buffalo, N. Y. An experiment in substituting a receding open-work treatment in place of the overhanging cornice.

illustrations showed strongly that there is aesthetic value, too, in continuity of street cornices. Continuity is perhaps beyond hoping for in these individualistic days, and the remedy for jerky vanishing lines would seem to be in restraint of the cornice habit. Seen from the street, it cannot be said that the high cornice gives any great amount of pleasure, however carefully detailed it may be, whilst the ponderous members must form a source of wonder, if not of humor, to the spectator who views them from a high level.

Conditions limiting the architect to-day, especially in tall buildings, appear to demand that the custom of *projecting* architectural features should be restrained, and a substitute found in *recessing*. It would appear, too, that the upper stories of high buildings might more generally be built on receding planes and so express outwardly the gradu-

#### BILL FOR NATIONAL FINE ARTS COMMISSION

Before the bill which the House has passed for a National Commission of Fine Arts becomes a law, if it does become one, it may of course be much changed. But that this bill should have originated in the House, and have been passed by it, distinguishes it from many bills of a generally like purpose that have gone before, and puts into the hearts of the measure's friends an exceeding hopefulness. The bill as passed by the House authorizes the appointment by the President of a permanent Commission of the Fine Arts, to be composed of seven artists of repute, who shall serve without compensation for four years. It shall advise in the selection of models for statues and monuments to be erected under the authority of the United States, regarding the artists to execute these works, and upon any question of art upon which the President or any committee of either house shall ask its judgment. Further, it shall determine the location of statues and monuments in the streets and public squares of the District of Columbia. For the expenses of the Commission, an annual appropriation of \$6,000 is allowed. Neither President nor Congress is bound to act in accordance with the advice the Commission gives. This would seem to be a very mild and gentle bill—the simplest sort of a beginning, but no one who has followed the fate of previous measures of the sort, or who heard the debate upon this bill, can overlook the significance of its being a beginning and of its having passed the House. It should perhaps be noted that Mr. McCall, who as chairman of the Library Committee presented the bill, received some of his best support from the speeches of a congressman from Texas and of a congressman from Wisconsin. These men spoke with great earnestness in the bill's behalf. And that is a reminder that in the

upper house, quite incongruously as one might think, the senator from raw Nevada has long been recognized as the main dependence for legislation of this kind.

### BILL FOR HARMONIOUS STREETS

Apropos of the recent discussions in this department of harmony in street architecture, the Commissioners of the District of Columbia have been working over a bill designed to secure such a result. As drawn, the bill provided that with the consent of 90 per cent. of the property owners, any street or part of a street might be subjected to special building regulations. The regulations to be thus established might include alterations and repairs, the prohibition of business structures from residential neighborhoods, the establishment of a building line, etc. The Commissioners could veto building materials and even the architectural design of dwellings, stores, office buildings, theatres or apartments. "The idea," says *Municipal Journal*, "is to give to the whole city a beautiful and harmonious appearance. The measure provides that within a year after the Commissioners have designated any street or section for the enforcement of these special regulations any one who has not given consent and who claims to have been deprived of his property rights can tell his story in the Court of Appeals." Streets would be known as "Class A streets" and "Class B streets" and the Commissioners would favor the former in recommendations for street improvements. This goes further than any attempt previously made in the United States to secure by ordinance harmony in the construction along a street. But Washington's special needs in this respect, and special shortcomings, make it a good place to try the experiment.

### DINNER OF BROOKLYN ARCHITECTS

The March dinner of the Brooklyn Chapter of the A. I. A. was made notable by some especially interesting speeches and discussion. The latter had to do in part with the location for Brooklyn's new Court House, a matter of hardly less contention than the question of the proper location for the new Court House in Manhattan. Henry C. Carrel, the president of the chapter, voiced his objection to the selected site as off the line of natural development. This made a natural opening for city-planning talk by

other speakers, and on that subject, too, there were differences of view. President I. K. Pond, of the A. I. A., pointed out that city-planning should be city development, not city transformation; C. Grant LaFarge,

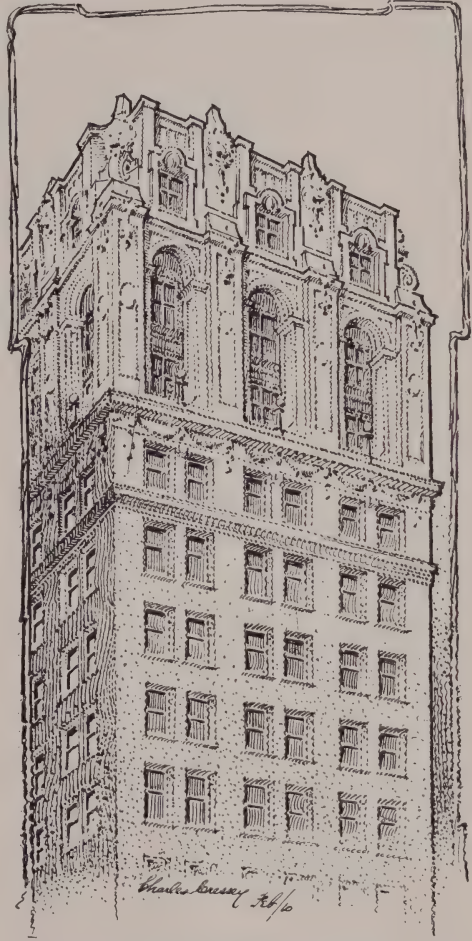


Fig. 6. Broadway-Chambers, New York City. A gradually reducing mass, with verticals predominating, takes the place of increased mass and horizontal termination of the upper story.

president of the Architectural League, declared that the chief obstacle to city-planning was just this fear, that the city was to be turned over to something that could not be understood. The planning must, therefore, be practical first of all. J. Stewart Barney thought it was all a mistake to talk about what European cities had done and hold them up as models. He thought that New York had troubles all her own—new conditions and new problems. E. M. Bassett, of the Public Service Commission,



believed that the right place to begin was with the constitution. He thought there was not much use in planning the superstructure until the legal foundation was satisfactory. He criticized the condemnation law so severely that the Chapter decided to take active measures to try to get a better one. Park Commissioner Stover told of some of the improvements he was going to try for—a public stadium along the shore of the Hudson, from Seventy-second Street to One Hundred and Twenty-ninth, and an open air theatre and stadium on Amsterdam Avenue, adjoining the City College grounds. For this George B. Post has made a design and a public spirited citizen has offered \$100,000.

### THE NEW PALACE. TOKIO

Photographs of the New Palace at Tokio, Japan, built for His Royal Highness, the Crown Prince, must give most of us a shock. They have been sent to the American

Institute of Architects by the Chief Architect, Tokuma Katayama, who is director of works of the Imperial Household Department and an honorary member of the American Institute. Five of the twelve photographs are reproduced in the March number of "Art and Progress." They show a stone building of the French Renaissance. Interior views show a Moorish smoking room, an English library "as it would be conceived in France," and other apartments as French translations of the Italian Renaissance. One looks in vain for a Japanese tone, or even anything Eastern. Chairs are the most conspicuous feature of the interior furnishing, and heavy candelabra of the interior decoration. James Rush Marshall contributes a few notes about it to "Art and Progress." As he says, the New Palace "will inevitably be the model in style in Japan for many public and important private houses of the future." To endorse his cheerful hope that the choice of the very foreign style was wise and may lead eventually to a new, national, and higher note in Japanese architecture, is not easy. Irving K. Pond, President of the A. I. A., before the Philadelphia Chapter, recently said: "In these days of conservation, the architects . . . should be the conservators of our national sentiment in art, of our national idealism." He added—and this reads pointedly, indeed, when one puts it in connection with the New Palace,— "There was a movement by those concerned

to employ European architects to design, after the European manner, the great buildings for the coming international exposition in Japan. The American Institute of Architects and certain art societies considered the propriety of addressing a communication to the Mikado suggesting that in the interest of art and the eternal fitness of things, the buildings be done by Japanese architects after the manner of their own art!" It may be noted that those who live in glass houses, meaning ourselves, though they may not throw stones have exceptional opportunities for accurate observation.

### A LETTER TO TOUCH

An appeal for the preservation of the churches of France, for their architectural beauty, which was lately published in *Le Figaro*, makes moving reading even here. The

writer was Josephine Peladan, and her letter is addressed to "Monsieur le Maire." It is a very long letter, but it nowhere rants. It observes that a church "is not solely a place of worship; it is also an edifice. The Parthenon long ago ceased to be a meeting place for the adorers of Pallas Athene, but is still visited by multitudes, not a man of whom cares a whit for its antique goddess. What foreigner, be he protestant or even atheist, comes to Paris without visiting Notre Dame? Temple and cathedral represent an universal interest, and Beauty is perhaps the only name for truth that is understood by all men." Then it recites that the Chamber of Deputies has not ordered the destruction of the churches. It has just said, "We will not repair them"—you know, it adds, "what would happen to your house if you never repaired it." The statement that "the cost of keeping up church buildings 'may' be assumed by the communes," means little, the letter writer says, for there is no compulsion, and in any case could the commune of Longpont, she asks, ever contrive to keep up the magnificent Clunist priory that has made it famous the world over? Then, making an appeal for the preservation of the churches, she says: "Do you want France to be embellished only with dwelling houses, with nothing monumental to remind us of our days of ancient glory? Your grandfather, perhaps, loved the emperor, and do not you cherish the old man's sword and his St. Helena medal? Our ancestors loved Christ; why should we blush for that love of theirs before being sure what is to replace it? Would you de-

molish the Arc de Triomphe and the Vendôme Column out of hatred of Bonaparte? Then don't demolish your church. Too much of the French spirit is incorporated in those stones, too much French labor built them up, and there is too much French genius made manifest by their beauty. . . . When we speak of France, let us exclude nothing—not even the God of the Franks; when we speak of the integrity of French territory, let us include everything—even the churches. . . . Our enemies would never have dared to do what you have been asked to do. Not even the Prussians would destroy your church!" An amendment of the law of 1905 permits the communes that take over the churches "to assume useful possession of building and ground whenever a church discontinues its religious function." The letter urges that if repairs cannot be made, God's house be at least left to God's grace. "Let the edifice die, let the ruin endure its anguish. Don't stoop to the dirty trade of the iconoclast, the priest of ugliness. Let time do the destroying. . . . Even a buttress or an arch or the smallest bit of detail serves to recall the splendors of the past."

#### NEW YORK IN PROVINCIAL EYES

The impression which the Great City, with its light colored, towering buildings, makes on the provincial mind is well put in some recent paragraphs of the Listener's column in the Boston "Transcript." Perhaps he, from the Athens of America and Hub of the universe, would scorn to be called a provincial. We may waive the point. His description is still of the impression made on the provincial mind, and puts it in novel and interesting way. He begins philosophically: "After all, the existence of the city—the rise and growth of a great, imposing and beautiful urban center—is the central fact, the dominant note, of the modern world. So it was, to be sure, through all the ancient history of the race. . . . There has always been one city that represented a given nation, and practically swayed its destinies." The Listener was thinking this the other day, strolling down Broadway. . . . Ever since his reporter days, as a newspaper man in various fields of duty, had he been chronicling and commenting upon the progressive downward tendency of Tammany's city; and lo, here was Manhattan more overwhelming in size and population, more won-

derful in architectural splendor, and 're-vision upward' in skyscrapers, more orderly in the management of the street traffic, which was tenfold increased, cleaner, gayer, more ideally metropolitan than ever. Evidently the mighty city . . . has become such a world nucleus, such a world in itself, indeed, that like the ocean it absorbs all that the generations of men may dump into it with ease and still tosses its vitalizing salt waves to the sunlight as bravely and royally as though ten thousand fleets of bosses had not swept over it in vain. . . . Broadway was handsome, genial and hospitable. The Flatiron building, the keynote of contemporary New York, loomed up afar through the mist like the bows of some magic colossal steam craft of the future, prophetic of the incalculable achievement to come of American wealth and invention. And next Madison Square opened upon the view, a few blocks further up. All the world loves Madison Square. Although it is of late just a little aging—for New York—a little seedy on the southern side and a trifle vulgar, with the overgrown clumsy tall clock tower, emphasizing, in its every line, its simple motive of outdoing, in mere height and mere bigness; and with its vis-a-vis, the packing box building, which has supplanted the classic Fifth Avenue Hotel, designed on the same bullying motive—still, if there were nothing seedy or vulgar cheek-by-jowl with all the beauty and magnificence, it would not be New York." To add one more provincial thought, it has often seemed to the writer that, in walking through New York's showier streets, one gets the sense of a noble music that is New York's own. It is an urban paean. The notation of the air is in the jagged skyline of great towering buildings; and the roar of the street's traffic, conveying consciousness of the power and might of the city, is the base accompaniment.

#### ARCHITECTS PROPOSE MEDALS FOR CLIENTS

To give medals to the owners of good looking tenements and apartment houses, rather than to the architects who design them, is the tactful purpose of the New York Chapter of the American Institute of Architects. "The hope is," says Arnold W. Brunner, the president of the Chapter, "that the plan may encourage the owners and builders of the great stretches of streets, through which the citizens must pass, to make them a lit-



tle more humane and livable." The medals are to be awarded for the most meritorious designs for the street façades of tenement houses less than six stories in height and of apartment houses more than six stories high, and the competition is made the more interesting since it is in a measure retro-active, any such houses erected within two years of the award being eligible. The plan may not lead to very radical or general betterment of aspect, but whatever help it gives will be welcome; and if long persisted in, it may do a good deal.

### MASONIC HOMES COMPETITION

The Grand Lodge, F. and A. M. of Pennsylvania, proposes to build a home for aged and infirm members, and wives, widows and orphans of members of the Masonic Fraternity, upon a site adjoining Elizabethtown on the main line of the Pennsylvania Railroad between Lancaster and Harrisburg. The tract here owned by the Lodge comprises 957 acres, of which about 240 are reserved for the buildings ultimately to be required for the Home. These, estimated to number upwards of eighty, will comprise a central building for community life, sixty to seventy cottages, chapel, hospital, schools, service buildings, etc.

The Grand Lodge has placed this project in the hands of a "Committee on Homes," with full authority to engage an architect and proceed with construction.

To procure a general plan for the group and an architect for initial constructions costing \$350,000, a competition has been established by the committee and will be conducted with the advice of Professor Warren P. Laird, of the University of Pennsylvania.

The competition will be restricted to invited architects, three of whom will be especially selected and paid, while others will be chosen from among those of the open field who desire to enter and who may be approved by the committee. This approval will be given only to architects of such nature, experience and reputation in the execution of large work that no hesitation would be felt in their selection under a method of direct appointment. As this might exclude younger practitioners whose ability in design would be of value to the competition, the committee will consider applications from "associated architects," if a member of such association be qualified as

above. Application blanks are to be obtained from the Grand Master.

A competitive fee of \$800 will be paid to (a) each of the three especially invited architects, and (b) each of those three others who rank highest in the judgment. Also to each of these will be paid such traveling expenses as may have been incurred by him in a preliminary examination of the site.

The competition will close June 18, 1910. Required drawings will be as few and simple as possible.

Judgment will be rendered by a jury composed of Professor Laird and two architects to be chosen by the competitors.

The appointed architect's commission will be at the rate of 6 per cent., under the statement of practice of the American Institute of Architects, and he will also receive for the use of his group plan, as restudied, the sum of \$1,000.

Programs will be issued to duly invited competitors.

Request for blank forms to be used in applying for admission to the competition should be addressed to Hon. George W. Guthrie, Grand Master, Masonic Temple, Philadelphia, Pa.

### MAKING DESIGNERS NERVOUS

An architectural condition on Washington Street in Boston has been described in the following weird but graphic verbiage by a writer in the *Architectural Review*: "Already," he says, "one margin of the Sacred Street of the Cowpath carries a tall façade largely composed of flowing outlines, circular forms, smiling mask-like faces and rare exotic vegetable growths, while a half dozen 'picture-theaters' have even more latterly blossomed out with smiling leprous fronts in the most eviscerated plastications of the 'Philadelphia Lubinesque.' But the shame presses still deeper and nearer to Boston's most holy of holies—nestling close under the shadow of that sacrosanct museum, the Old South Church, are two 'Vomitorites' of cast cement, in a shape and design flagrantly Art Nouveau! Shades of the Pilgrim Fathers, how did this come to be?" The Boston Transcript, stirred by the arraignment, notes with sad bewilderment: "This is the Transit Commission's reward for avoiding the repetition of the 'Public Library pups' on the Common." Dear, dear! Ideals are getting very exacting.

# The Efficient Electric Generator for the Country

Made by the General Electric Company

Year by year the most desirable locations for country homes are being taken up by men of the city who have enough of this world's goods to spend the remainder of their lives in ease and comfort. Once a man has tasted of city life, the mark of the town is stamped indelibly into his soul. He will never be content to ride behind the old bay team again—the automobile will hurry him along the highways; he will never be patient to wait for the slow mails—the telephone will ever stand at his elbow to keep him in immediate touch with his friends; never again the coal stove in every room; the water to be pumped from well and cistern; vanished forever the sickly light from dangerous oil lamps. The country home of to-day must have all the conveniences of a city residence, and, at the same time, be located by mountain and stream, hill and dale, fell and wold—yet not too far from the convenient trolley or steam railroad line.

In nearly every case these modern country homes must be designed with all the conveniences of bath rooms, shower baths, running water and adequate sewer systems, the water being supplied by a pumping station or a small reservoir located so that the water pressure is the result of a natural fall or gravity. Running water is an absolute necessity for country estates, and ways and means to get a steady supply of good water should be considered and planned before the architect even begins his work. Often, where pumping stations are used, the tanks are located close up under the roof of the house, and sometimes they are concealed in the body of the windmill itself, giving the mill a decided old Dutch effect. In other cases a buried tank is combined with a compressed air system to supply running water.

But the man with the hall-mark of the city demands more than a complete water system in his house. He must have electric lights, electric power in a small way, and electricity for heating and cooking purposes. While a number of country homes are conveniently located near towns or cities having current to sell and can, consequently, be supplied with plenty of electricity, a large number are not so favorably located and must generate their own electricity. A few, a very few, are so fortunate as to possess water power which can be harnessed to supply an abundance of electrical power for all purposes, but by far the greater majority must get their electricity from engine-driven generators.

The old type of belted or direct-connected steam-engine generating set, with boiler plant, is far, indeed, from being an ideal source of power for summer houses. Most of the gas-engines of small horse-power are single or two-cylinder engines, in which each explosion causes a sudden jerk to the generator and produces uneven speed and flickering electric lights.

Gas-engine-driven electric light sets for country homes have been produced, combining a gas-engine and a generator, selected without discrimination from separate manufacturers. The results have been far from satisfactory. The opportunity for filling a need appealed to the General Electric Company, whose engineers have been for years developing and producing successful gasolene electric lighting outfits, complete, for the use of the government. Their research and experiment has resulted in the development of lighting sets of several convenient sizes. The smallest will furnish current for about 2,400 candle-power in the new Mazda electric incandescent lamps, and



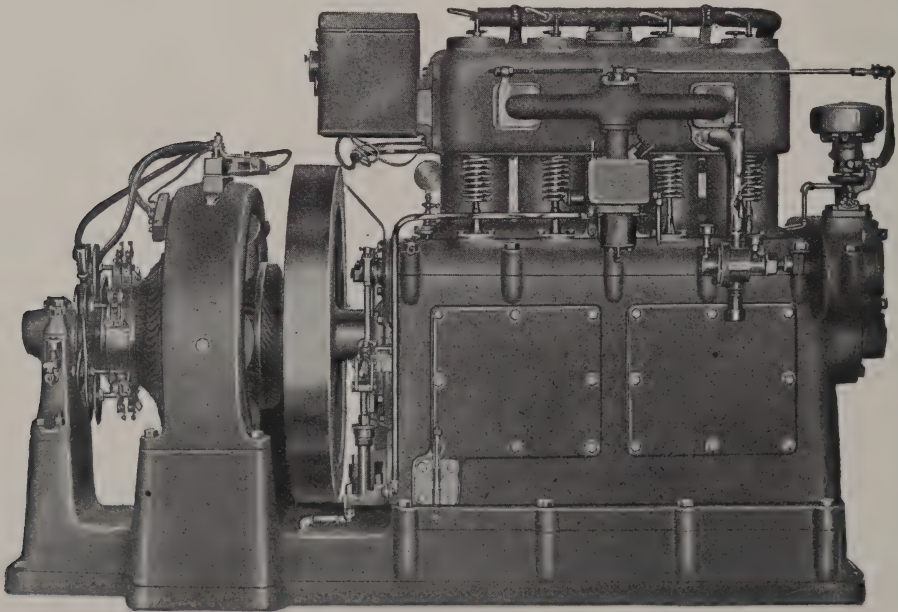
the largest size will supply current for all the lamps, heating devices, small motors, etc., which would be used about a country estate.

Where these small generating sets are to be used, the architect usually sets apart a small power-house or a portion of the garage for their installation. They take up only a small space, the switch-board being installed wherever convenient. The little engine is "cranked" like an automobile, and, once started, will run for days without any further attention than an occasional replenishing of fuel and oil supply. The gas-engine, having four cylinders, drives the generator steadily, producing a steady current of electricity and no annoying flickering of the lights. These gasolene engines are of the very highest type. They are very economical in the use of fuel, and, being built simply and compactly, there is little danger of the machinery breaking down or needing repairs.

Electricity is now practically indispensable on a country estate. First and foremost, it is necessary for lighting purposes, and, next, it offers an abund-

ance of safe and economical power. In the house, electricity drives the fans, vacuum cleaners, elevators, laundry machinery, refrigerating plants and a dozen and one domestic appliances for buffing and grinding, polishing and sewing, sharpening, etc. In the kitchen it is now used to a great extent for heating and cooking, and, in fact, a number of homes are equipped with electric kitchens wherein all the cooking and kitchen work is done by electricity.

About the grounds and the barns, electric power is a great convenience. It will drive all the farm machinery. Gasolene electric generating sets furnish an abundant supply of current for charging the batteries of electric automobiles and launches, or for charging the ignition batteries of gasolene vehicles. There the water system depends upon a power-driven pump. No better source of power can be imagined than the electric motor, which can be made to work automatically by a simple little mechanical device, and which always keeps the water in the tank at a certain level.



GASOLENE ENGINE GENERATOR SET.

Designed especially for country power-producing by the General Electric Company.

# ARCHITECTURAL TRIBULATIONS

In these columns the writer recently had the temerity of suggesting that the regular rows of city houses, such rows as are a'born-ing here in Washington at the rate of a good many miles a year, were hideous, monstrosities, and a blot upon the landscape. He dared even to suggest that public-spirited architects should give block designs to these speculative builders, rather than to see our cities utterly spoiled. Well, the fact that that article appeared over initials only did not conceal its identity sufficiently to save the writer from the wrath of the builders and, strange as it may seem, some architects, who have pounced upon him, declaring that those rows were the natural development of a city, beautiful because useful and that the idea of designing a whole block, for instance, of separate houses built as a unit (and treated with some architectural decency at least), was preposterous, excessively costly and thoroughly impracticable. There is no use going into a long discussion upon that matter. He feels convinced that the thinking, reasonable architects, let alone those with even the slightest touch of the artistic in their composition, are solidly with him and the others don't bother him much. But, just as a slight "retort courteous" to them, something to demonstrate that the thing can be done and has been done and exists in the flesh, here's a view of eight houses built some time ago in a Western city, a solid row but treated as a unit, inexpensive and fairly attractive. They are built on the side of a hill and even the expert may not notice at first glance how that difference of level is masked. Instead of stepping the thing down, house by house, like a huge flight of stairs, this row is broken by a bit of a tower, a bay, salient features, though not forced, and with the result that one has to be told before realizing that from end to end there is the difference of nearly an entire story in the levels.

The "designer" must be a weak sister, indeed, if he can't do as well or better than this.

A friend, a keen observer and well versed in architecture, returning from his customary annual trip abroad, confirms the impression we have received from the foreign architectural journals that the most recent French buildings are so fiercely Art

Nouveau as to be absolutely ludicrous, contorted pipe-dreams. But the gentleman's description of recent German work is interesting and curious. Mark you, he is a German himself, intensely fond of the Fatherland and a man who, Teuton-like, has always absorbed a fair amount of beer. Well, he declares that from henceforth he is going to be a teetotaler. The recent German buildings have made him so. He deplores the "beery" tendency of everything Germanic. In the Universities it is a lesson, then beer; in business it's a transaction, then two beers, and infinitely more so than in his time or even last year. The Art Nouveau has become "beerified" and German buildings have gotten over the jaunty jab period, the exhilarated stage of mild inebriation and the late ones look to be absolutely sozzled! The idea is a quaint one, but look at some of the illustrations of recent work in Berlin, for instance, and you will see the connection and it will strike you as absurdly funny but exceedingly real.

---

The Government has done a good deal already in the way of experimenting with and testing building materials. It has built a little better than most private individuals, and, under recent administrations, has raised the standard of its architecture away above that which obtained a few years ago. In its testing work there have been certain handicaps that made these tests not a bit more authoritative than those of any other corporation or individual, but lately things seem to be tending toward placing all this testing in charge of one bureau rather than having it imperfectly done and duplicated by perhaps half a dozen. The Bureau of Standards in Washington is gradually being equipped with splendid machinery and appliances with which all materials can be tested to a point that has never yet been reached, and in such a way as to develop and record the nature and possibilities of materials in an infinitely more thorough and serviceable manner than has ever been attempted. Dr. Straton, the Chief of that Bureau, is not only a scientist of high calibre but a practical business man, enthusiastic, energetic, perfectly impartial, splendidly versed in the art of good construction and a delightfully good fellow. We



may expect some rather surprising and mighty valuable data soon.

We hear a lot about the deadness of Government life, its destructiveness of all initiative, and so on. But it seems that Rooseveltism or something or other has infused new blood into Governmental service or has stirred up the old fellows, for certainly "U. S." does not mean inertia as it did in the old times. The Governmental chaps are doing things, are awake and up to date and in many cases are 'way ahead of the procession. Noting Dr. Straton's initiative and super-activity reminds one of something Major Judson, the Engineer Commissioner of the District of Columbia, has just suggested, a civic regulation that no other municipal executive has yet had the

proval. We're going in that direction and will get there some day.

Bad example is contagious. We are rather inclined to smile at the "divine right of kings" and all that kind of sentiment, the theory that rulers are not subject to law and so on, and pride ourselves upon our democratic organization that makes all men equal in the eyes of the law. But, see the effects of this example business. We, unfortunately, are not unfamiliar with the sight of a mayor or a chief of police "joy-riding" in his motor car at a rate of speed away above the limit and not a policeman venturing to remonstrate or much less arrest the offender. All kinds of little sins like that are quite common, the official usurpation of privileges. But here's a case worth noting:



A BLOCK OF HOUSES ON AN INCLINED STREET.

back-bone to try and put into force. The Major not only believes in the strictest of building regulations, as far as health and safety are concerned, but agrees with us that the eye should not be offended by ugliness any more than we should permit the nostrils to be offended by a soap factory or other such nuisance. He wants our building laws to be such that if 75 per cent. of the property owners in any one block object to the style or character of a building, some one owner proposes erecting on that block, and those objections seem valid to the building department, no permit will be issued for such structure. Pretty drastic but a rattling good step in the right direction. It tends to a Civic Art Commission or Board to whom, ultimately, all designs for buildings in that city would have to be submitted for ap-

proval. A city that but recently passed very stiff and commendable building regulations now proposes putting up a building for itself in which those regulations are absolutely set at naught, ignored. They are going to put up that building in a congested district, where nothing but fireproof structures are permitted, and want to make it a veritable fire-trap. What an example! Luckily there are a few citizens there with something of a back-bone who have taken the matter in hand and threatened an injunction. In all probability they will prevent this municipal folly, but the thing that bothers one is the idea that the moment their fellows invest them with a little brief authority the officials can with impunity kick over the traces and become a little law unto themselves.

F. W. F.



# ' THE ' ARCHITECTURAL RECORD



## · CONTENTS ·

	PAGE.
Architecture of American Colleges..... (Illustrated)	443
IV.—New York City Colleges	
Montgomery Schuyler	
Residence of Col. John Jacob Astor..... (Illustrated)	471
The Evolution of Architectural Ornament..... (Illustrated)	483
IV.—The English Gothic School	
G. A. T. Middleton, A. R. I. B. A.	
Public School Buildings at Chicago, Ill..... (Illustrated)	495
The Work of Dwight H. Perkins	
Peter B. Wight	
"Uplands," Home of J. Borden Harriman, Esq... (Illustrated)	513
Notes and Comments..... (Illustrated)	519
The Pennsylvania's New York Station—Planning Park Bridges—Aviation and City Planning—Prestige—Architects' Dream for Atlanta—Replanning a Famous Square—A Year's Public Monuments.	

PUBLISHED BY

THE ARCHITECTURAL RECORD COMPANY

President, CLINTON W. SWEET  
Vice-Pres. & } H. W. DESMOND  
Genl. Mgr., }

Treasurer, F. W. DODGE  
Secretary, F. T. MILLER

11-15 East Twenty-fourth Street, Manhattan

Telephone, 4430 Madison Square

Subscription (Yearly) \$3.00

Published Monthly

Copyright, 1910, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879





DETAIL OF THE LIBRARY—COLUMBIA UNIVERSITY.  
116th St., New York City. McKim, Mead & White, Architects.



## Architecture of American Colleges

### IV.

#### NEW YORK CITY COLLEGES

Now that Columbia has definitely taken its place among the great universities of the country, the wonder grows that it should ever have found its place among the small colleges. This humble situation it continued to occupy long after the city of its seat had become the commercial metropolis of the United States. Before New York arrived at that primacy, it was worthy of a bigger institution of learning than it possessed. No more liberal and public spirited a body\* of traders ever existed than the New York merchant of the old days. They patronized institutions of learning bountifully. But, till within a comparatively recent period, they carried their patronage afar, and planted and watered at New Haven or Princeton, instead of refreshing this thirsty soil on which they lived and got their livings and their "superflux." Columbia waned while New York waxed. Even the "church colleges" far from New York got more than their share of the bounty of New York "churchmen." Now that Columbia has grown so big as an university, and so much bigger even as a college, this challenging inquiry can, happily, be pursued without invidiousness. To pursue it

takes us back to the beginning of "King's College," which as the Roman inscription on the front of the actual library proudly sets forth, was "Founded in New York by Royal Charter in the reign of George II."

The first suggestion of a college in New York was doubtless that made by Lewis Morris to the Society for the Propagation of the Gospel in Foreign Parts, in the reign of Queen Anne. It was a suggestion that the Queen's Farm might probably be had for that purpose for the asking. Nothing came of the suggestion. The next year the property was granted to Trinity and became the Church Farm. The project of a college languished for half a century, and then, curiously, the same piece of land was made to subserve it. Trinity Church, under the guidance of Dr. Barclay, whose name survives in that of one New York street, as that of his predecessor Vesey in that of another, made over a site for the college, on the express condition that the President of the college should be a member of the Church of England, and also that its religious services should be selections from the liturgy of that church. October 31, 1754, was the exact date of

Copyright, 1910, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879.





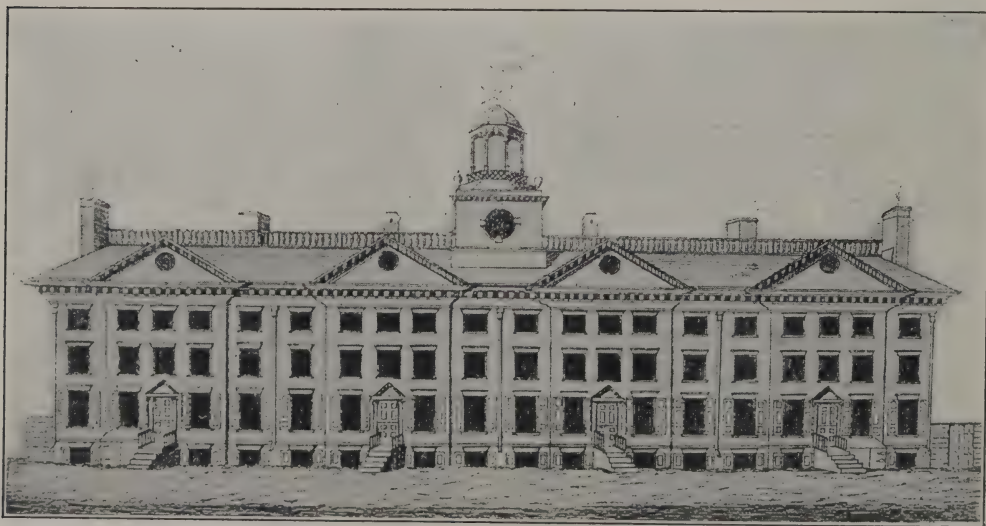
KING'S COLLEGE IN 1760.

the charter by the Governor in Council, the Governor, in fact, being the Lieutenant Governor, James De Lancey. But there had already been much contention over the constitution of the proposed college, which all New York agreed ought to be founded, coming, however, to differ internecinely when the details of the foundation came into question. The story may be partly read in the official "History of Columbia University"; more fully and freely, and therefore more entertainingly in William Smith's "History."

The original site of King's College, as given by Trinity Church, a frontage of 440 feet on "Church" street, between what is now Barclay and what

is now Murray, and thence westerly to the North River, is now traceable only in the name on the map and in the directory of "College Place," if, indeed, the very name survives. "The churches of other denominations," remarks Smith, "soon took the alarm, suspecting that the Episcopalian persuasion intended to engross the government of the college, and the press began daily to represent the impolicy and injustice of devoting funds raised by all sects for a common use to the dominion of one."

The original charter of King's College had appealed for support for the new institution in words possibly formulaic, but apparently borrowed from those of the then recent "prospectus" of Nassau Hall,



COLUMBIA COLLEGE IN 1790.



COLUMBIA COLLEGE IN 1857.

which they reproduced, upon the ground that it was instituted "for the Instruction and Education of Youth in the Liberal Arts and Sciences." It was in July, 1754, that the Rev. Dr. Johnson, who comprised in himself the entire faculty, began to give instruction, in the vestry room of Trinity. It was not until August, 1756, that the cornerstone of the college's own building was laid. It was not until 1760 that the building was so far advanced that the college could hold its commencements in it. The first reported commencement, that of 1758, was held in St. George's Chapel, the building in Beekman street which was demolished some forty years ago to make room for the "St. George Building," which perpetuates the name, and the exercises began with a procession to the chapel from the vestry room of Trinity, at Broadway and Wall Street, a considerable promenade. The new building which was to house Columbia for only three years short of a century was occupied two years later. President Myles Cooper, who succeeded Dr. Johnson, rather discreetly limits his praise to the situation of the site:

The college is situated on a dry, gravelly soil, about one hundred and fifty yards from

the bank of the Hudson River, which it overlooks; commanding, from the eminence on which it stands, a most extensive and beautiful prospect of the opposite shore and country of New Jersey, the City and Island of New York, Long Island, Staten Island, New York Bay with its islands, the Narrows, forming the mouth of the Harbor, etc., etc.; and, being totally unencumbered by any adjacent buildings, and admitting the purest circulation of air from the river and every other quarter, has the benefit of as agreeable and healthy a situation as can possibly be conceived.

We must be willing to take Dr. Cooper's word for the "prospect" of 1773, when he wrote, since we can no longer verify his word. But fancy the Arcadian time when an edifice at Park Place and Church Street was "totally unencumbered by any adjacent buildings." There are, doubtless, some oldsters who remember how the college looked before the demolition which followed so swiftly on the removal of 1857. But even they can hardly recall the time when the view from the site to the river was unobstructed, long as the lower west side lingered in its development after the lower east side.

This present article is not, of course, a history of Columbia, excepting in so far as the history is necessary to elucidate the architecture. So it is not necessary to recount the various steps by



which the struggling college, which had failed to make an adequate appeal to the public by the value to the community of its teaching, secured from the Legislature, in 1814, in answer to a rather pitiful statement of its failure, the grant of the "Botanic Garden" which had lately escheated to or been conveyed to the State, having failed to answer the intention of its projector, Dr. David Hosack. This is the tract of one hundred and sixty lots, "bounded on the North by 51st Street, on the South by Forty-seventh Street, on the East by Fifth Avenue and on the West by a line parallel

Asylum and the block on which it stood, block bounded by Madison and Fourth avenues and 49th and 50th streets. Thither, the next year, the college migrated, and there it stayed for forty years, until it made its flitting to Morningside. The first college building the college cannot be praised or blamed for. It was "an habitation enforced," being the old Deaf and Dumb Asylum. Such as it was, it was the only home of Columbia until, early in the seventies, beginning in 1874 with the School of Mines, and following up that beginning with "Hamilton Hall" (the Madison Avenue



HAMILTON HALL (1879). COLUMBIA COLLEGE.

49th St. and Madison Ave., N. Y. C.

Chas. C. Haight, Architect.

with and about one hundred feet easterly of the Sixth Avenue," which has for almost a century continued to form a considerable and increasing part of the patrimony of Columbia. Naturally, when the increasing value of the old site in "College Place" made that unavailable for the situation of a college, the thoughts of the trustees tended to this acquisition, and in 1855 a special committee of the trustees, in consultation with Richard Upjohn, architect, developed plans for college buildings on the Botanic Garden property. One would like to see those plans. But they came to nothing, seeing that, a few years later, the college bought the Deaf and Dumb

front), with the Library, with the fringe of buildings fronting the railroad on Fourth Avenue. Mr. Haight surrounded and screened off the preposterous old edifice with those strictly "collegiate" and very interesting buildings which nearly all of us remember, and so many of us regret, and regret with a mixture of resentment that they should have been superseded by something so very different. Only the other day one might have seen the demolishers converting the last of them, the frontage on Fourth Avenue, into *dissecta membra*, or junk.

Doubtless the removal to Morningside was enforced by the same considerations which had enforced the removal of forty

years before. The removal virtually coincided with the beginning of the development of a second-class college into a first-class university. Architecturally, it was marked by the complete obliteration of the architectural traditions of Columbia. The "Anglicanism" of Columbia, as we have seen, was rather hurtful to it academically in the beginning, continued, as we shall see, to be hurtful when the college was no longer new. But there was an architectural compensation for this in the fact that Anglicanism supplied precisely what had for generations been recognized as the most appropriate and attractive architecture for a place of education for English-speaking mankind. The ridge was practically unoccupied when Columbia took up its new quarters there. The elevation, though not very great, is precipitous and effective. It sufficed to keep the ridge free from the tide of commonplace building which had already begun to overflow the lowlands to the east. It offered the means of establishing a secluded and cloistral quarter, a quarter visible and obviously devoted to the things of the mind, as opposed to the satisfaction of merely physical needs, and the continuance of the merely material "struggle for life." Moreover, the ridge was already committed in this architectural direction by the adoption, just southerly of Columbia's new abode, of the design for the Cathedral of St. John the Divine, though, to be sure, this commitment was somewhat obscured by the adoption for a site almost adjoining that of the cathedral of a building for St. Luke's Hospital of a design in so alien a manner as that of French Ludovican. Still, some mode of English "collegiate" seemed to most cultivated and sensitive persons to be pretty imperatively indicated as the style of the new Columbia. To the Columbia Committee on Buildings and Grounds, "*aliter visum.*" That committee rendered a report in the latter part of 1893 of which perhaps the most plausible explanation is that the committee had been dazzled by the then recent and "sudden glories" of the scenic architecture of the Chicago Fair. At any rate, the most tangible of its propositions was that the style chosen for the new Columbia should be "appro-

priate to the municipal character of the situation"; in other words, that it should not be an exception and an oasis in the commercial architecture of Manhattan, but should conform to that architecture. The adoption of this requirement was the end of the hope that Morningside might come to be a secluded and cloistral quarter, a "thing apart."

The pompous and expository architecture which resulted from that unfortunate decision is known to all New Yorkers. One must not, simply because he finds it locally, historically and expressionally unsuitable, be led to denying it its own merits. My French friend may be right in maintaining that the library of Columbia is a "a library de luxe and not de books"; but even he cannot deny the impressiveness from the pompous and expository point of view, of that decastyle Ionic portico, with the brick-paved expanse of the terraced plaza in front of it and Mr. French's colossal embodiment of "Alma Mater" in the center. It is, the whole effect, classic and grandiose. Classic and grandiose also, is the effect of the interior, with its columns of dark-green Irish marble and its surmounting classical statues over one face. So it is the most "monumental" of Mr. McKim's attempts to foist upon modern requirements that "maestoso" Greco-Roman colonnade. The most monumental, at least, in actual and durable erections, for I think it yields in effectiveness, when regarded in its true light of an academic classical study, to the reproduction by the same artist at the Chicago Fair, of the Baths of Carcalla, for the uses of an agricultural building. Of course, it yields still further when one reflects that the Chicago Building was avowedly scenic and illusive, while the New York building was ostensibly the satisfaction of very real and practical modern requirements. One would be loath to lose the library, all the same. If you can call a modern a great poet—as nobody ever calls him—for his sensitive and skillful rehandling of Latin versification to express modern notions, equally may you call a modern a great architect for his rehandling of the classic Greco-Roman architectural forms to fulfil modern requirements, and many there



be who do call him so. The library is, without question, a carefully and successfully studied performance in its own kind, and it is, moreover, carried out in a manner sumptuous, and regardless of expense. A whole quadrangle executed in the same sumptuous and regardless manner would have gone some distance towards conveying the impression that the Columbia Committee on Buildings and Grounds knew what it was talking about when it recommended

the attractiveness of formula, of the disposition of forms according to conventions. It is not by plastering an archaeologist's portico against a bricklayer's front that you can get the impression of classic architecture. You really must, in homelier materials, substitute the interest of homelier and more idiomatic handling. The Columbia buildings, designed by the firm of the architect of the Library, struggle against a manifest impossibility, against a contradiction in terms. Brick



LIBRARY—COLUMBIA UNIVERSITY.

116th St., New York City.

McKim, Mead & White, Architects.

"municipal classic" as the style of the university. But that contention becomes quite impossible when this central building is "conferred" with its later and accessory buildings in the same manner, and constructed, necessarily, with some regard to expense, and so in commoner materials. In such buildings the attractiveness of craftsmanship, of an idiomatic treatment of the materials employed, must necessarily come, not merely to supplement, but even to supplant,

fronts simply do not become specimens of classical architecture because you plaster little porticoes against them, nor even because you erect them on Cyclopean bases of huge slabs of pink granite, with a swaggering two-foot half-round by way of base moulding, as the badge of your "style." Whatever you get, it is not, in such a case as that of Columbia, the specific expression that is looked for. The group of Columbia, in so far as it is a carrying out of the special intention, is

a failure. One might take it for a hospital, for a group of official buildings, for almost anything but what it is. You may admit that it is "municipal." You cannot possibly maintain that it is "collegiate."

The most obvious proof that Columbia, in its special architectural intention,

lege, is an obvious departure, so obvious that it might be called a protest. And, be it noted, these buildings, by whomsoever designed—and at least three architects were concerned in the production of them—the further they depart in treatment from the "municipal" group the more closely they approach to the



HAMILTON HALL—COLUMBIA UNIVERSITY.

McKim, Mead & White, Architects.

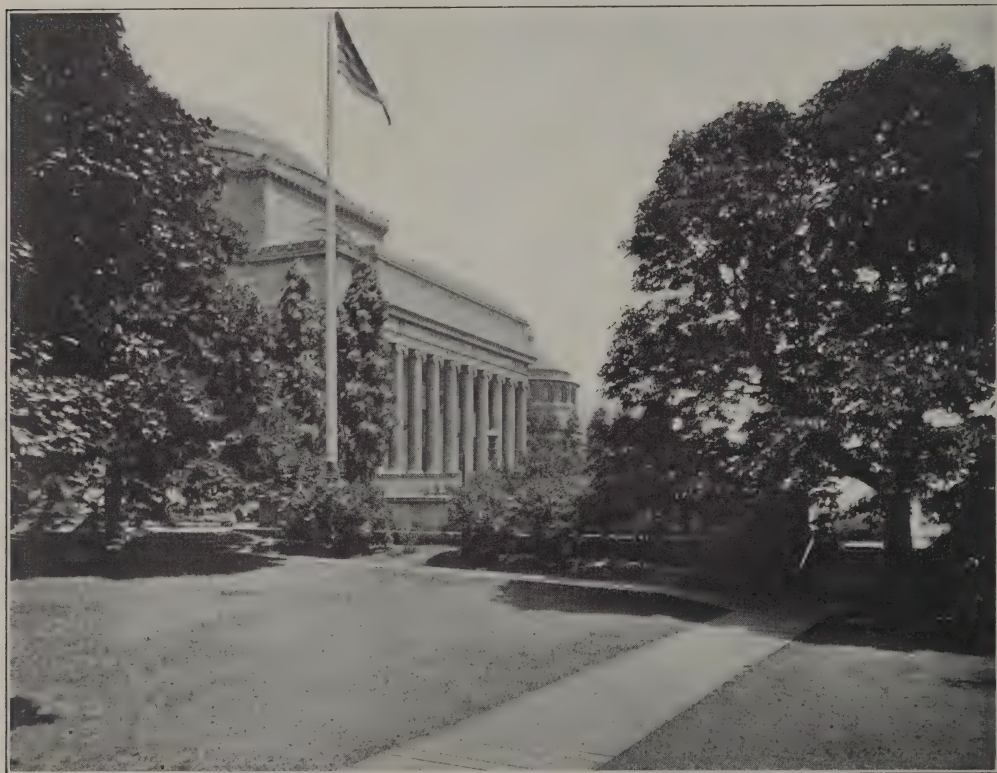
is a failure, is the haste which the architects of the accessory and surrounding buildings have shown to get away from the "style" of the nucleal group, which was expected to impose itself on them. They have sought an expression, rather, of cloistrality and seclusion. That row to the northward, for example, comprising the buildings of the Teachers' Col-

lege, is an obvious departure, so obvious that it might be called a protest. And as with the Teachers' College and its flanking buildings, to the northward of Columbia, even so with the buildings of Barnard to the westward. These latter are, in fact, classifiable as "classic," in contradistinction to the "Gothic" which is the manifest inspiration of the work



of Mr. Potter and of Messrs. Parrish and Schroeder. But the work of Messrs. Lamb and Rich, in Barnard, and delightful work it is, is of that mode of classic which is known as "Jacobean," and which is, in truth, a picturesque degeneration of the Gothic which held sway for some generations before the accession of James I. This mode of classic does doubtless enable the expression of a place of education which is a place of

It would be by no means appreciative to pass without a word of recognition for the one building, and that belonging to the strictly Columbian nucleus of the "institutional" architectural exhibit on Morningside Heights, which shows an earnest and intelligent and most interesting effort to combine the effects of what we have called the architecture of formula with those proper to the architecture of craftsmanship. That building



PICTURESQUE VIEW OF LIBRARY FROM UPPER WEST TERRACE. COLUMBIA UNIVERSITY.

McKim, Mead & White, Architects.

residence as well as of instruction, does come far nearer the ideal of a "college" than the irrelevant grandiosity of the buildings of Columbia, properly 'so-called. Not to do injustice to the architects of Columbia proper, one has to admit that the collegiate idea implies living on the premises, and that an institution the scheme of which foregoes dormitories and contemplates only "day scholars," can but imperfectly express that idea.

is, of course, St. Paul's Chapel. It is in the exterior that this edifice struggles to conform to the big Greco-Roman edifices of the foundation, and it is the exterior that is least attractive and successful. It seems to fail by the mere force of the attempt to conform. One cannot, it is true, classify this exterior even as classic. One murmurs, vaguely "Byzantine." The one badge of the formal classic left is the columnar porch, which does the building



MAPES MEMORIAL GATE—COLUMBIA UNIVERSITY (1898).

Broadway and 170th St., N. Y. City.

Thomas Nash, Architect.

no good if it does not do it harm. The exterior architecture elsewhere, though always composed and adjusted in a knowing and scholarly way, owes its chief attractiveness, as strictly as the polygonal low-roofed cupola which crowns it, to the suggestion that it encloses and envelopes something better worth looking at than itself. And this one finds to be the case. The interior of the chapel has, in fact, nothing superficially in common with the common no-

tion of a college chapel, either "classic" or Gothic. It is not reminiscent of any example of either mode, in its general forms or in its detail. Yet it is most unmistakably a church, by the disposition of its parts. And it proceeds from the ground plan which is so clearly dictated by the specific purpose of the structure to the architectural forms which are so clearly dictated by the materials and the mode of construction. There is no irrelevant introduction of architectural



MILBANK HALL, BARNARD COLLEGE.

Lamb &amp; Rich, Architects.



forms which the artist seems to have admired in historical examples. The thing is so clearly and unmistakably made out of its own elements that there is not a detail which seems to have been "lugged in." Even the great arches that surround and abut the dome have the air of having been originally composed for the purpose they here fulfil. The result

And hear once more in college fanes  
The storms their high-built organs make  
And thunder-music, rolling, shake  
The prophets blazoned on the panes,

and you will have to own that the "long-drawn aisle and fretted vault" which may be essential to your own notion of a "college fane," and which you may actually see, to the same accompaniment, at



ST. PAUL'S CHAPEL—COLUMBIA UNIVERSITY (1906).

Amsterdam Ave. and 116th St., N. Y. City.

Howells & Stokes, Architects.

is that refreshing sense of reality of which we commonly have to mourn the absence. This interior is of one of those rare architectural successes which, being of no style, yet unmistakably have style. Sit down in it and let its "frozen music" sink into you, on the occasion of a "recital," while through another sense you take in the incidental music,

the C. C. N. Y., a mile to the northward, is no more appropriate to the purpose of a "college fane" than this system of huge piers and pendentives in frankly exposed and treated brickwork. This interior is a distinct and rare architectural success, with an air as "original," as homebred and vernacular, as that of a shingled suburban cottage.

The New York University may pretty safely be said to have been, in its origin, Columbia's "own fault." That restriction of the undergraduate body of Columbia to the sons of Episcopalians, which William Livingston foreboded, only in part took place, though, to be sure, the Presbyterians of New York continued to send their sons to Nassau Hall, and the Congregationalists to Yale. They might have continued to do that, though Columbia had been purely secular or "godless," according to the purpose attributed to the "Independent Reflector" by his opponents, and warmly disclaimed by himself. It was the curriculum of Columbia, rather than its ecclesiastical relations, which gave the first impetus to the foundation of the university. Indeed, among the agitators in 1830 for the establishment of a new college or university in New York, two were clergymen of the Protestant Episcopal Church—Dr. Wainwright, of Grace Church, and Dr. Milner, of "St. George's Chapel." But, if one may trust tradition, both these clergymen were representatives of the "Low," or "Evangelical," as against the "High," or ecclesiastical, of the two factions into which the Episcopal Church had by that time become clearly divided.

In 1830, New York City had attained a population of 197,112. Thanks to the



St. Paul's Chapel, Columbia University (1906).  
Howells & Stokes, Architects.

exploitation, by means of the Erie Canal, of its clear natural advantages, it had become the unquestioned "commercial emporium," eclipsing all its rival Atlantic ports, to the southward or the northward. There was a great and most creditable stirring, in these parts, toward a cultivation of the things of the mind, concurrent with the advance of the new metropolis in material things. That was the exact year in which Coloned Henry Rutgers gained the distinction of having "Queen's College," the Dutch Reformed Seminary over in New Brunswick, named after him. That was equally the year in which "Mr. Sherred," at the moderate cost of presenting an endowment of \$70,000 to "the Episcopal Seminary in Greenwich Village," insured that, two generations later, the initial building of the new General Theological Seminary in Chelsea Square should be called after his name. But Columbia, secure in its endowment of lands increasing in value by the "unearned increment" of increase in the population and the prosperity of the town, did nothing to take advantage of the new opportunities and forced those who appreciated the new opportunities into a position of antagonism to itself. It was perfectly in vain for the promoters of the new university to disclaim, as they kept disclaiming, any antagonism to Columbia. It



Earl Hall—Columbia University.  
McKim, Mead & White, Architects.





HALL OF FAME AND LIBRARY—NEW YORK UNIVERSITY.

University Heights, N. Y. City.

McKim, Mead &amp; White, Architects.

was so entirely manifest, on the face of things, that if Columbia had done its duty by New York, there would be no need of any other institution for the higher education. That there was no sectarian or anti-sectarian bias in the foundation of the new university is sufficiently evinced by the letter of an angry correspondent of the "Evening Post," in this year 1830, complaining that the Unitarian denomination had not been "recognized" in the composition of the "council" of the new institution. But the agitators were too wary to put their agitation on sectarian grounds. While deprecating the sectarian feeling by which they were yet so manifestly inspired, and while deprecating also the opposition to Columbia, which so manifestly animated their efforts, they proceeded to point out that Columbia had not served the community. They did not scruple to carry their complaints into detail. They resolved "that it is highly desirable and expedient to establish, in the city of New York, a University on a liberal foundation, which shall correspond with the spirit and wants of our country, which shall be commensurate with our great and growing population, and which shall enlarge the opportunities for education for such youth as shall be found qualified and inclined to improve them." "Innuendo," necessarily, that Columbia

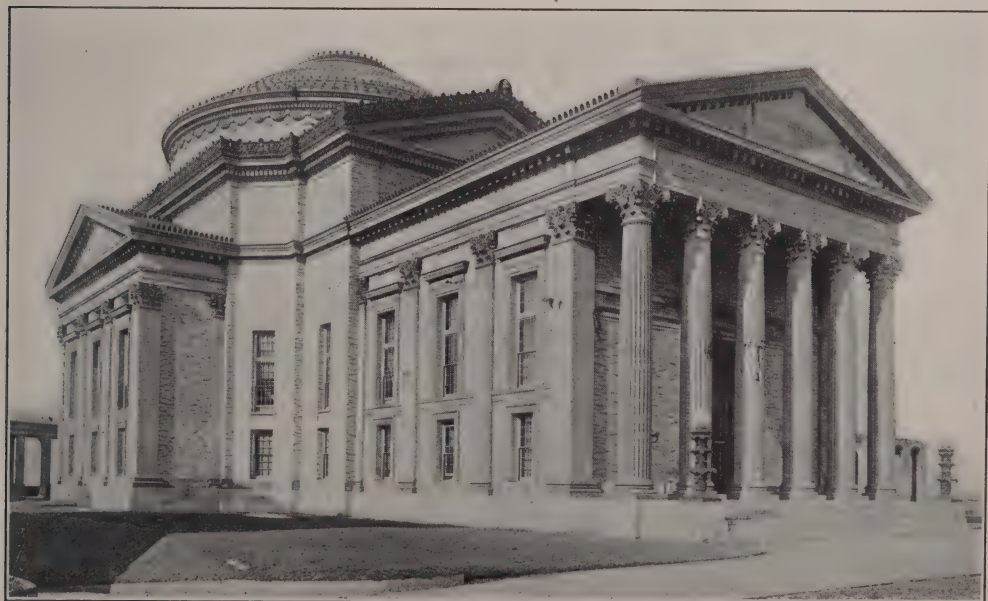
did not fill the bill. And the innuendo the agitators proceed to make explicit. Columbia "does not meet the literary wants of the city. It is decidedly characterized as a preparatory school for the learned professions. It bars from its privileges all who will not devote a portion, and a very large portion, too, of their attention to Latin and Greek, whatever may be their future intentions in life." "Useful knowledge" is imparted "only in the last two years of the course." Columbia is "only for professional men." The foundation of the university was necessarily an indictment of the pre-existing institution. The creation of the New York University, "on a liberal and extensive foundation," was, in fact, a provision, essentially, and in addition to the various sectarian impulses which were, by Columbia's fault, denied satisfaction in Columbia, for the accommodation of the class which, unless the college slang has been altered since my time, is known as "militiamen," in increased facilities for the attainment of the degree of "B.S.," even at the expense of the existing facilities for the degree of "B.A." Alas! it is a very obsolete controversy now. Such has been the progress of "electivism" that any expert may safely be defied to tell what either of these mystic concatenations of letters of the alphabet stands for in this present

year of grace. It was, indeed, suggested in 1830 that the old college and the new university "might by some happy arrangement be made to coalesce." But there was not enough good sense or good feeling on either side to make this suggestion effective.

This episode, though happily a digression, has nothing directly to do with college architecture. The new "Dissenting Academy" did not aspire for some years to a habitation of its own. Its first habitation, again, "an habitation enforced," was "Clinton Hall," then at the corner of Nassau and Beekman, though afterwards removed to Astor Place, where the new university began to administer its instructions in 1832. It was not until July of the following year that the cornerstone was laid of the university building on the east side of Washington Square, which to New Yorkers of any but the most recent standing is recalled by the name of "The University."

Of this edifice it is saying too much, perhaps, to say that it recalls, in their fulness, the collegiate buildings of Oxford and Cambridge, its prototype. It

is certainly saying too little to say that it effaced and extinguished the architectural pretensions of anything that Columbia had built up to that time, or was to build for a generation later. Alexander J. Davis was the architect, and he was lucky enough to get his design carried out in a seemly and honest monochrome of gray stone, which made the building, even up to the time of its demolition in obedience to an imperious commercial necessity, a true architectural oasis in the desert of New York, such an oasis as we have been blaming Columbia for not establishing on the unoccupied plateau of Morningside Heights. The building became, by dint of its architectural quality, combined with the aloofness of its situation, the center of the intellectual activities of the city, of the uncommercial manifestations of the life of New York. What there was of romance in those old prosaic New York days took to the building and clung to it like ivy. Moreover, the building exactly suited the old—wordly and oasal character which the Washington Square it fronted so long retained, and even today, in part, it retains. It would be diffi-



LIBRARY—NEW YORK UNIVERSITY (1899).

McKim, Mead & White, Architects.



cult to name a building the demolition of which, in accordance with the demands of "progress," inflicted more sentimental distress upon sentimentally sensitive New Yorkers.

Quite true, they have their compensations in the buildings of "University Heights," buildings which are by no means so well known as they deserve to be, and which remain comparatively unknown by very dint of the altitude and the detachment which make the site so highly eligible for an institution of learning. That western ridge of Manhattan Island, with the branch of it which extends northward into the Bronx, seems, in fact, reserved by nature for intellectual and spiritual uses. The ridge begins to crop out at the lower end of that "Riverside Drive" which was so providently reserved from common uses half a century ago; uses which it is in part fulfilling and in part, thanks to our unrestrained individualism, so lamentably failing to fulfil. At Morningside it has risen to a respectable and impressive altitude above the plain to the eastward or the slope to the westward. Morningside was also reserved by the wisdom of our ancestors as a peculiar and distinct quarter, and its topography indicated it as an "institutional" quarter, for cathedrals and hospitals and colleges. The indication was observed by those who acquired the site of Columbia, if not by those who "regularly laid it out." It is this peculiar character which makes so irritating the irrelevancies of the Columbian committee about the "municipal character of the site." As we have been pointing out, the successes of the architects of Morningside have been pretty strictly in proportion as they have ignored the municipal character of the site and insisted rather on its cloistral character. Undoubtedly that way of regarding the problem has very much to do with the success of the College of the City of New York, of which the site has the picturesque advantage over that of Columbia in that it overlooks the eastward plain of Harlem Flats from the very edge of the beetling cliff, instead of from the plateau behind it. But even more commanding than this is the new site of the university. Nothing hereabouts is so boldly pictur-

esque as the valley, here almost a canyon, of the estuary we call the Harlem "River," the frith which here runs through a ravine, and across which the buildings on the summits confront each other at an almost equal height, with every advantage for the exhibition of whatever architectural attractiveness they possess. It is a pity that this is so little. It is really a municipal concern that this reach of river at Fort George should be bordered by buildings worthy of it. The Washington Bridge, which spans it, is undoubtedly worthy, though the bridge is, unfortunately, out of sight from the University Heights. There is much to impress one with the works of nature as seen from the Heights, even if the evidences of man's work is lacking. And so, indeed, are the buildings of the university worthy of their admirable sight and setting. They are, of course, "classic." But classic is a word of multitude, and, in spite of the porticoes and the applied orders, and the saucer cupola, there is as much in the yellow brick and gray stone of Stanford White's masonry at University Heights as there is nothing in the Greco-Roman of his partner's on Morningside to recall the free and vernacular use of classic forms in Georgian and Colonial work. The peristylar colonnade—only it is, in fact, a "pierade"—of the Hall of Fame, with the spreading dome above, dominates the bluff with great effectiveness and seems very oppositely to "belong." When the counterpart of the Hall of Languages comes to be built on the other wing of the peristyle, the effect from below will be uniquely impressive. The interior of the principal building, from the chapel in the basement to the library under the dome, is equally effective in its way. The campus front, with its portico, is equally in keeping, and so are the two subordinate building of the same authorship. The Gould Dormitory and the Hall of Languages, with their engaged orders, carry out the same notion of a homely and vernacular rendering of a current style. For some reason, perhaps precisely because the character of the site is so distinctly not "municipal," these buildings are not "astylar," but show the



HALL OF LANGUAGES—NEW YORK UNIVERSITY.

McKim, Mead &amp; White, Architects.

orders. By the homogeneousness of material and treatment between the principal building and its dependencies, these buildings really carry the "collegiate" connotation which the subordinate buildings of Columbia so lack. They are not only "institutional," but of the peculiar institution to which they, in fact, belong. When the campus comes to be built up with buildings as well designed as these pioneers, there will hardly be a more exemplary group of college buildings in the country in their own style and kind.

To say this, all the same, is by no means the same as saying that this is the most eligible mode of building for its purpose. Most of the buildings which immediately surround the new Columbia defer more or less to the style of the nucleal edifices. The new buildings of the Union Theological Seminary do not come into the general view of Columbia, though they are of the vicinage.

When the doom was decided, in the interest of "progress," of the picturesque buildings of the Union Theological Seminary, which made so grateful an oasis of a block-front at Park Avenue and Seventieth St., lovers of architecture refused to be comforted, foreboding that

they would get nothing to look at in its stead that would be so good. Now they are reassured, having in the new buildings at Broadway and 120th Street received something even better worth looking at, being equally artistic and much more extensive. For here is a double block front, the suppressed street, closed to general traffic, being indicated by a towered gateway at the center. Four hundred and sixty feet one may take the frontage to be, including the suppressed street, and such a frontage lengthwise of a New York avenue offers an unusual architectural opportunity. Happily, also, the transverse blocks are so narrowed at this point that the site suggests or imposes a quadrangle entirely enclosed but surrounding a court which is seemly and ample, but no more, for the purposes of a court, assuring light and air to the inmates on all four sides. It will be agreed that the architectural opportunity has been admirably utilized. "The municipal character of the site" is recognized, not by making the architecture uncharacteristic, for it remains unmistakably collegiate. It has been recognized by building higher than the architects would have liked to go, we may assume, if expense, in the costliness of the land, had



been no object. The architects of Princeton have had the greatest luck in this respect of any of the recent designers of colleges. They have been permitted, by the expanse of the campus, to limit themselves to two stories of actual wall in their dormitories, whereas Mr. Haight, in the "Sheff" buildings of Yale, has been compelled to "recognize the municipal character" of New Haven by adding two more, and Messrs. Allen and Collens conformed to the municipal character of upper Manhattan by a superposition of still two more, for the court side of their buildings shows

tower, manages to assert itself according to the importance of its function. In the material, though the contrast of the light tint of the wrought work and the intractable rock of the wall field is by no means so staring as in the C. C. N. Y., it is striking enough to make one wish that the colors could have been transposed. The architecture suffers also, no doubt, from the enforced attenuation of the supports of the Broadway front, an attenuation so extreme that the photograph even suggests, though untruly, a metallic structure for the lower walls, and has a worse effect in giving the



NEW YORK UNIVERSITY, GOULD HALL (DORMITORY).

McKim, Mead & White, Architects.

six habitable floors, though one of them is in the basement and one in the roof. The disposition necessarily lacks something of the cloistral character. A main drawback to it is that it becomes impossible to signalize the superior parts of your design by superior altitude, a misfortune which, in the old seminary in Park Avenue, resulted in the overtopping of the chapel, the central and most commanding member of the group, by the dormitories which rose behind it. It has not been so bad in these succeeding buildings. The chapel, by dint of its steep roof and its

"clerestory," the library, one infers, a greater apparent solidity than that of its supporting substructure. These defects the architects have endeavored, and with success, to mitigate by enclosing the whole light structure of the curtain walls between features of unquestionable massiveness and solidity, the central tower and the terminal pavilion. The device has its success. An angle pavilion like this at the north end of the Broadway front, a terminal feature of this kind, buttressed and gabled, but not towered, has no precedent in collegiate architecture that I know of. But what of that?



COURT—NEW UNION THEOLOGICAL SEMINARY (1910).

Broadway, Claremont Ave., 120th-122d Sts., N. Y. City.

Allen & Collens, Architects.



BROADWAY FRONT—NEW UNION THEOLOGICAL SEMINARY (1910).

Broadway, Claremont Ave., 120th-122d Sts., N. Y. C.

Allen & Collens, Architects.



There are nine and sixty ways of constructing  
tribal lays,  
And every single one of them is right!

The feature is needed here, to "spike  
the wall down," as Richardson used to  
say, and it amply justifies itself not only  
by the completeness with which it fulfils  
that function, but by the power and

point finds an interesting, though not  
always a successful, solution. It is not  
only one of the best of our collegiate  
buildings, but one of the notable archi-  
tectural ornaments of New York.

The College of the City of New York  
had quite a different beginning from



CORNER DETAIL—NEW UNION THEOLOGICAL SEMINARY (1910).

Broadway and 119th St., N. Y. City.

Allen & Collens, Architects.

grace of its own design. Our street archi-  
tecture has nothing better to show in this  
kind, and very few things so good. And  
the design throughout shows an intelli-  
gent, subtle and sensitive consideration  
of the problem in hand, and at every

either of the other scholastic institutions  
we have been discussing. In its first  
stages, sixty years ago, it did not even  
assume the name of a college. Under  
the name of the Free Academy, it be-  
longed to the class of "academies" in-

intermediate between the public schools and the colleges. During the early part of the nineteenth century, this intermediate class of educational institutions attracted a degree of regard from the legislature and the regents of the State University, which it has long since lost. The more, apparently, is the pity. This

with great effect. Naturally, it was objected to by certain political purists, as giving to some children the facilities of a higher education at the public expense which it was not practicable to furnish to all children. But criticism on this score has now entirely died out. The latest exponent of it was probably



CHAPEL—NEW UNION THEOLOGICAL SEMINARY (1910).

Broadway, Claremont Ave., 120th-122d Sts., N. Y. City.

Allen & Collens, Architects.

particular "academy" was projected as the roof and crown of the public school system, and an energetic and capable professor from a languishing "church college" up the state was brought down to put it into operation, which he did

Charles A. Dana, who used regularly to fulminate in the *Sun* against the C. C. N. Y. as an unconstitutional and undemocratic institution. The criticism has died out, on account of the extent to which the institution has been justified



by its children and on account of the enormous incentive the existence of the institution furnishes to zealous students in the public schools. At any rate, it is quite as firmly rooted now as any of its collegiate predecessors, and possesses the advantage over them that it can enforce a much more Spartan discipline, being dependent on no tuition fees, and, indeed, being interested in weeding out rather than in increasing the undergrad-

lege, nearly contemporary with it. In fact, the old building of the Free Academy needs only more monumental material and greater refinement of detail to be admitted as a very worthy specimen of its species. The notion of establishing the college hall, or assembly room, in which was also an entirely undenominational and even creedless "chapel," in a clerestory was a happy thought which would of itself have given



FRONT OF MAIN BUILDING—COLLEGE OF THE CITY OF NEW YORK (1909).

Amsterdam and Convent Aves., 137th-139th Sts., N. Y. C. George B. Post & Sons, Architects.

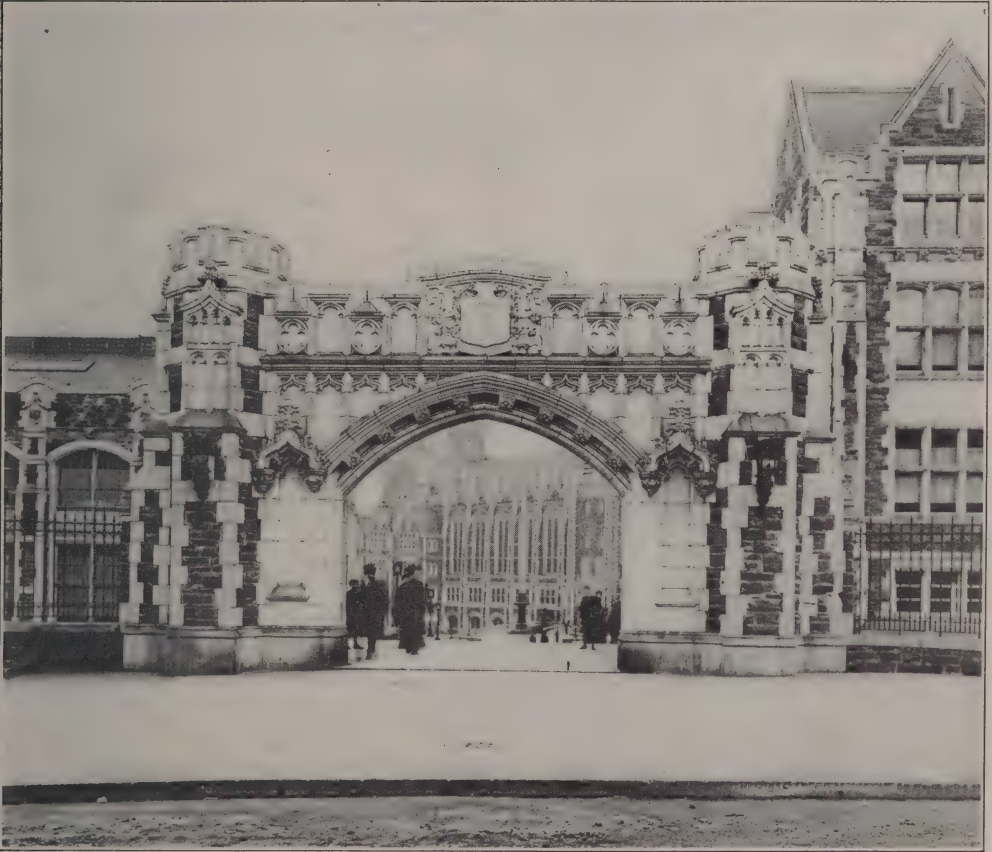
uate body. Its first home must be now fully sixty years of age, and is still, though perhaps rather precariously, standing in East Twenty-third street.

It is the work of James Renwick, and it exhibits, as distinctly as the preceding edifices of the University in Washington Square, the belief that collegiate is the proper style of architecture for a college. It is, in its general conception, highly creditable to the architect, far more creditable than the Normal Col-

distinction to the single building in which, at the time of its erection, the college was expected to be comprised. That it should so far have outgrown this limitation as to grow up to the group of buildings on the heights of Convent Avenue, is monumental evidence of the public usefulness of the institution and of the public appreciation of the same. Neither is there any question of the brilliant architectural success of the new buildings themselves. I have so recently

(March, 1907), had the privilege of celebrating the architecture in detail in these pages that I am the better content to dismiss it summarily now. As we have seen, the site is about the luckiest for such an institution that the island of Manhattan affords, almost the luckiest that the whole "ridgy back" of the West Side of upper Manhattan and lower

a distance where the meanness of its architecture in detail is no longer apprehensible, and you are at liberty to be impressed with the extent and the intensity of its populousness. The view recalls Carlyle's description in prose of that of London from Highgate Hill, or Shelley's in verse of the lookout from the Euganean Hills. And how the pro-



AMSTERDAM AVENUE GATE—COLLEGE OF THE CITY OF NEW YORK (1909).

Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City. Geo. B. Post & Sons, Architects.

Bronx affords, unless there be some "saddle back" in the chain which affords a downward view on both sides. Not quite so lucky as that of the University, with the gleam of the "river" underneath and the confronting height opposite, but about all that can be had from one side of the spinal column of the island. For you look off directly eastward over the populous plain of the Harlem Flats, at

jection of the "building line" to the very brink of the precipitous cliff enhances the effectiveness of the view both of the plain from above and of the buildings from below.

The one main defect of the architecture is so obvious to everybody and has been so much insisted on by everybody that there is little use in more than merely mentioning it now. The combi-



nation of materials comes near that crucial illustration of Richardson's of a building of black granite with trimmings of white marble. For the rough rock of the wall-surfaces is as black as stone can be quarried, the white of the wrought work as white as terra cotta can be "burned." One was never so thankful to mere grime as he is here to the sooty stain that has begun to overspread the snowy terra cotta since it was put in place. As George Eliot some-

which are admirably in keeping with the design of the buildings and in furtherance of their effectiveness. While the designer as evidently knew as he evidently loved his Gothic, he is as far as possible from being a purist. His work shows, among other things, how architectural purity can be attained without architectural purism. Indeed, had he been a purist, he would not have been the architect for this job. He would have striven to find historical Gothic



TOWNSEND HARRIS HALL—COLLEGE OF THE CITY OF NEW YORK (1909).

Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City. George B. Post & Sons, Architects.

where says, "some sorts of dirt serve to clarify," and the design is "clarified" hereby. Some seasons of the London "blacks" would do these buildings great good. It would not be a bad notion for the city to permit the City College to burn soft coal for a season until the architecture has been properly smoked. It is to be hoped that no vandal will propose the cleaning of this terra cotta so soon as it begins to take "the tone of time." Of late there have been added adornments, in the way of the gates,

forms within which could be constrained such requirements, unknown to the builders of the mediaeval monasteries and colleges, as those of the Chemical Building and the building of the Mechanical Arts, and would have infallibly spoiled those buildings by failing to find them. In truth, nothing about the group is more happy and admirable than the manner in which the precedented and the unprecedented in their architecture coalesce and harmonize. One can perhaps perceive a longing on the part of the archi-

fect for more or larger solids and less or smaller voids than would have satisfied his clients, who evidently importuned him with the prayer for light, and one rejoices at his circumvention of them in the main front of the sub-freshman building, in the erection of a decorated wall absolutely without any apertures whatever excepting the doorway and its two inconspicuous flanking windows. The Gothic purist would no doubt "stare and gasp" at finding the developed apse of a Gothic church suffering a sea-change into a six-story office building. But so long as it serves the purposes of the office building, and

with greater effect. The change one might wish for in the direction of modernity would have been the substitution of metal for an imitation of masonry in the piers that carry the clerestory of the interior. The apartment itself, with its magnitude of 150x100x70, is approached in dimensions by very few of our church interiors, and it is clear that these unusual dimensions are required to accommodate an unusual "congregation." Unobstruction of the floor-space is a primary requirement. It would have been better fulfilled by a structure of metal, and there would have been a great gain in frankness, in the sense of reality,



CAMPUS LOOKING TOWARDS AMSTERDAM AVE.—  
YORK (1909).

COLLEGE OF THE CITY OF NEW

Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City.

George B. Post & Sons, Architects.

at the same time without proclamation or suggestion of any untruth, adds a richness and a grace to the building to which it is adjoined, one does not feel moved to join the purist. In one point, indeed, one wishes the architect had been more frankly modern, and that is in the interior of the "Assembly Hall," as the apartment, which can hardly be called a chapel, seeing it is erected for the use not only of all shades of professing Christians, but also of "Turks, Jews, infidels and heretics," is cautiously and diplomatically designated. This is much more conventionally the "college fane" than that of the chapel of Columbia, and the "thunder music" of the high-built organ "rolls" in it with equal though not

and also, if the architect had wrought as successfully here as he has done elsewhere, in architectural grace. But, indeed, it were ungrateful to cavil with what has given us so much pleasure. The artistic success of these buildings is not only undisputed, but triumphant. And it may be added that, by reason of the heterogeneousness of the undergraduate body, there is no college to which the education, daily and unconsciously imparted, of inspiring architecture is more important.

A much more conventional collegiate Gothic than that of the C. C. N. Y. is that of the General Theological Seminary down in Chelsea Square. This in-



stitution has the advantage one would desire for a place of education, being as secluded as any site on Manhattan Island could be. It would be already, without its buildings, an oasis; or more properly a "backwater." Hardly anybody, it is safe to say, so much as sees it without going to see it. Originally reserved from ordinary settlement by a well advised owner who desired to bring his farm land into urban occupation by establishing an attractive little park, it has continued ever since to subserve that purpose. It is true that the

narian and the sectarian character of the institution. They were two in number, one a lecture hall and one a dormitory, for *quandoque bonus dormitat theologicus*, and they were in what the untutored builder fondly fancied to be English Gothic. The beginning of the more informed and sympathetic rendering of that mode with which Mr. Haight has been supplementing or superseding these ancient but hardly venerable structures dates back almost thirty years, to the erection of Sherred Hall in 1883. One would be at a loss to name, within the



AMSTERDAM AVENUE ENTRANCE—COLLEGE OF THE CITY OF NEW YORK (1909).

Amsterdam and Convent Aves., 137th-139th Sts., N. Y. City. George B. Post & Sons, Architects.

riparian owners on the North side may be disposed to grumble at having only brick walls to look at, even brick walls so good-looking as these, instead of the grass and trees the brick walls shut out from view. But on the South side the "quad" pleasantly frames the little park, and gives the dwellers who have it in constant view, something better worth looking at than they had before. The original stone buildings erected for the use of the seminary, one in the twenties and one in the forties of the last century, recognized the collegiate and the semi-

"municipal" limits of New York another so complete exposition of a collegiate "plant" with its lodgings, its library, its refectory, its chapel, its entire scholastic equipment. One would be almost equally at a loss to name another in which the chosen style has been so idiomatically and vernacularly applied. The express renunciation of sumptuousness of material, in favor of rough brick, with sparing wrought work in brownstone was doubtless necessitated by economy. But the choice would in any case have been fortunate. It promotes the homeliness and

habitableness of the buildings and gives additional relief and value to the sparing carved ornament in which the architect found himself at liberty to indulge. With more space at command, it were a pleasant task to go through the work

proper architectural style for American colleges. The confused impression made by the architecture of the new Columbia, with the successfully pompous and grandiose Library in incomplete relations with the less successful quest for



EAST QUADRANGLE—GENERAL THEOLOGICAL SEMINARY (1884).

9th and 10th Aves., 20th-21st Sts., N. Y. City.

Chas. C. Haight. Architect.

in detail, instead of having to refer to the illustrations, which also one would like to see on a more extensive scale than is here practicable. But it is hard to see how, after a survey of even the illustrations to which we are restricted, the surveyor can be in doubt as to the

those qualities in the accessory buildings, even the more single and successful impression made by the architecture of the new University of New York, with its unequalled site, is "from the purpose" of collegiate architecture when compared with the impression made by





GENERAL THEOLOGICAL SEMINARY (1884).

9th and 10th Aves., 20th-21st Sts., N. Y. City.

Chas. C. Haight, Architect.



HOFFMAN HALL—GENERAL THEOLOGICAL SEMINARY (1902).

9th and 10th Aves., 20th-21st Sts., N. Y. C.

Chas. C. Haight, Architect.

the College of the City of New York, the Union Theological Seminary, or the General Theological Seminary. Great as is the diversity these works exhibit among themselves, great the variety of

expression which the style they have in common enables and invites, the impression of each group of buildings is single and definite, the expression of each group unmistakably "collegiate."

*Montgomery Schuyler.*



DOORWAY OF MEMORIAL CHAPEL—GENERAL THEOLOGICAL SEMINARY (1887).

Chas. C. Haight, Architect.  
J. Massey Rhind, Sculptor.





ENCLOSED COURT—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City. Carrère & Hastings, Architects.

# The Residence of Col. John Jacob Astor

(Photos by Floyd Baker)

The interior of the residence of Col. John Jacob Astor, which is illustrated herewith, has a peculiar architectural interest from several different points of view. It is interesting, in the first place, because of the example it affords of a modern metropolitan dwelling of the most expensive class, the design of which has been confided to architects of the highest standing. But it is still more interesting because of the transformation it has recently undergone. It is one of the few modern American residences of this class which has a history. The illustrations, published herewith, show a composite result obtained under the direction of two different architects, and embodying in a significant manner the different standards which prevailed in designing this type of house over twenty years ago, from those which prevail today. In order to understand the transformation which the house has undergone, both in plan and design, the reader should follow with some care the following description of the process.

The original house, which was built late in the nineties, occupies a plot of about 100 x 100 ft. at the corner of 65th Street and Fifth Avenue. Its plan was determined by the fact that, although provided with only a single entrance, it was intended for the occupation of two separate families. The northerly half was occupied by the late Mrs. William Astor, Col. Astor's mother, and the southerly half by Col. Astor himself. The ground floor, consequently, was cut up into a double set of apartments, each containing its equipment of living and dining rooms. On the other hand, there were certain rooms, such as the art gallery, which belonged, as it were, to the whole house and not specifically to either half of it. Both the plan and design of this original building, the architect of which was the late Richard Morris Hunt, was dominated by a huge monumental staircase, which directly faced the en-

trance hall, and which occupied a great deal of space. This staircase belonged, like the art gallery, to the house as a whole, rather than to the two separate sets of apartments into which the use of the house was divided.

When Mrs. Astor died, Col. Astor naturally wished to have its plan adapted to the occupancy of one rather than two families; and the task of making the change was confided to Messrs. Carrère & Hastings. They were not commissioned, however, to do away entirely with the old plan. On the contrary, the idea was that only such changes should be made as were indispensable to the adaptation of the house to its new function, including, of course, such changes in the design as necessarily accompanied the changes in the plan. The new plan became, consequently, something of a compromise and included certain dispositions of the available space, which would not have been adopted in case a wholly new house of the same dimensions and requirements was to be built.

The fundamental change in the old plan which the new architects decided to make was the elimination of the monumental staircase. This staircase, while an effective architectural feature, served no practical purpose commensurate in importance with its cost in space. The rooms on the upper floor, to which it rose, were not used for entertainment. They were the private apartments of the occupants of the house; and it did not seem worth while to sacrifice so much room to what was essentially a subordinate function in the economy of the building. Moreover, this staircase embarrassed the architects in laying out the ground floor so that it would be best adapted to its essential purpose. What the owner needed on the ground floor was a series of apartments which could be conveniently used for entertainments of all kinds, both large and small; and this staircase made it difficult, if not im-



possible, to provide either for free movement among the different rooms on the ground floor or for any effective architectural treatment.

The grand staircase having been done away with, a much more modest one was substituted in the rear of the building. The way was thus cleared for a central court, roofed in glass and finished in Caen stone, which forms the dominant feature of the plan. This court is separated from the entrance hall by a wooden screen, beautifully designed and carved, but it communicates freely through its arches with the rooms into which the floor is divided. Such a court existed in the first plan, but it was deprived of any effect by the staircase. Back of this court is the art gallery, which remains as it was, and which can be used for dancing. To the right is a library, formerly Col. Astor's dining room, which has not been essentially changed by the new architects. To the left is the new dining room, which has been done over completely, and which is an apartment of rare beauty and distinction. The smaller reception rooms to the left and right of the entrance on the avenue frontage of the house have not been materially altered; but in one room, a good deal of money was spent upon new furnishing. The existing arrangement of

rooms is extraordinarily well adapted to the entertainment of a large number of guests, whether by way of a dinner, a dance or a reception.

The reader need only compare the new dining room with the reception room or library in order to trace the different point of view towards interior design, which has become characteristic of the majority of the better contemporary architects. The earlier rooms are careful examples of so-called "period" design; and in executing this class of work the architect was usually much more preoccupied with general precedents than he was with imparting distinction and flavor to a particular room. The new dining room, on the other hand, while it is composed entirely of traditional architectural material, cannot be identified absolutely with any single period. The architects have contrived to give it individuality and distinction, while still keeping it congruous with the rest of the house and while adhering strictly to the forms of the classic French decorative styles. It is apparent that the change has constituted an improvement, and it is to be hoped that mere architectural scholarship will never again become so large a part of the equipment of the average good architect, as it was twenty-five years ago.



SCREEN IN FRONT OF ENCLOSED COURT—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.

Carrère & Hastings, Architects.



ENCLOSED COURT—RESIDENCE OF COL. JOHN JACOB ASTOR.

5th Ave. and 65th St., New York City.

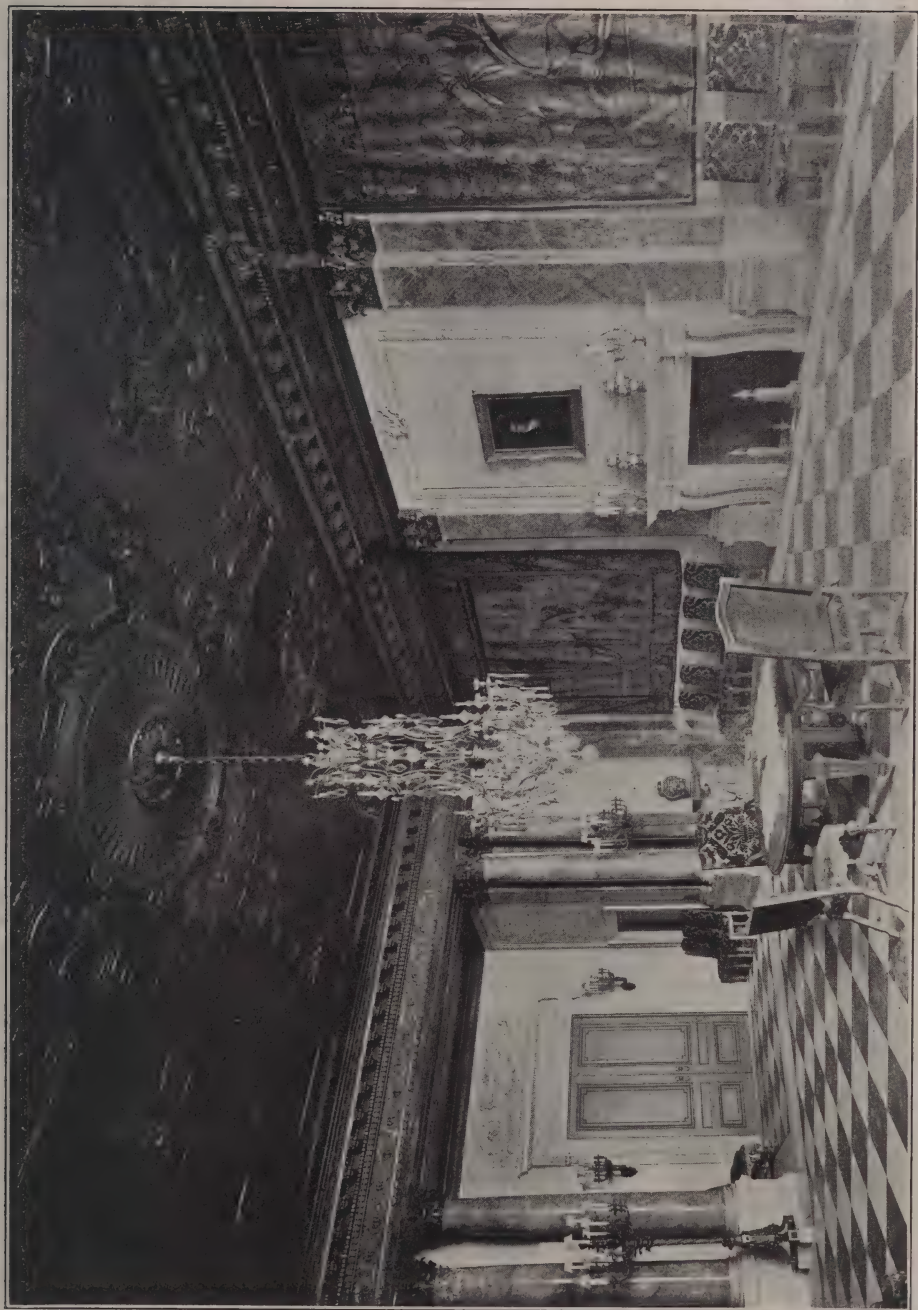
Carrère & Hastings, Architects.





DINING ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.

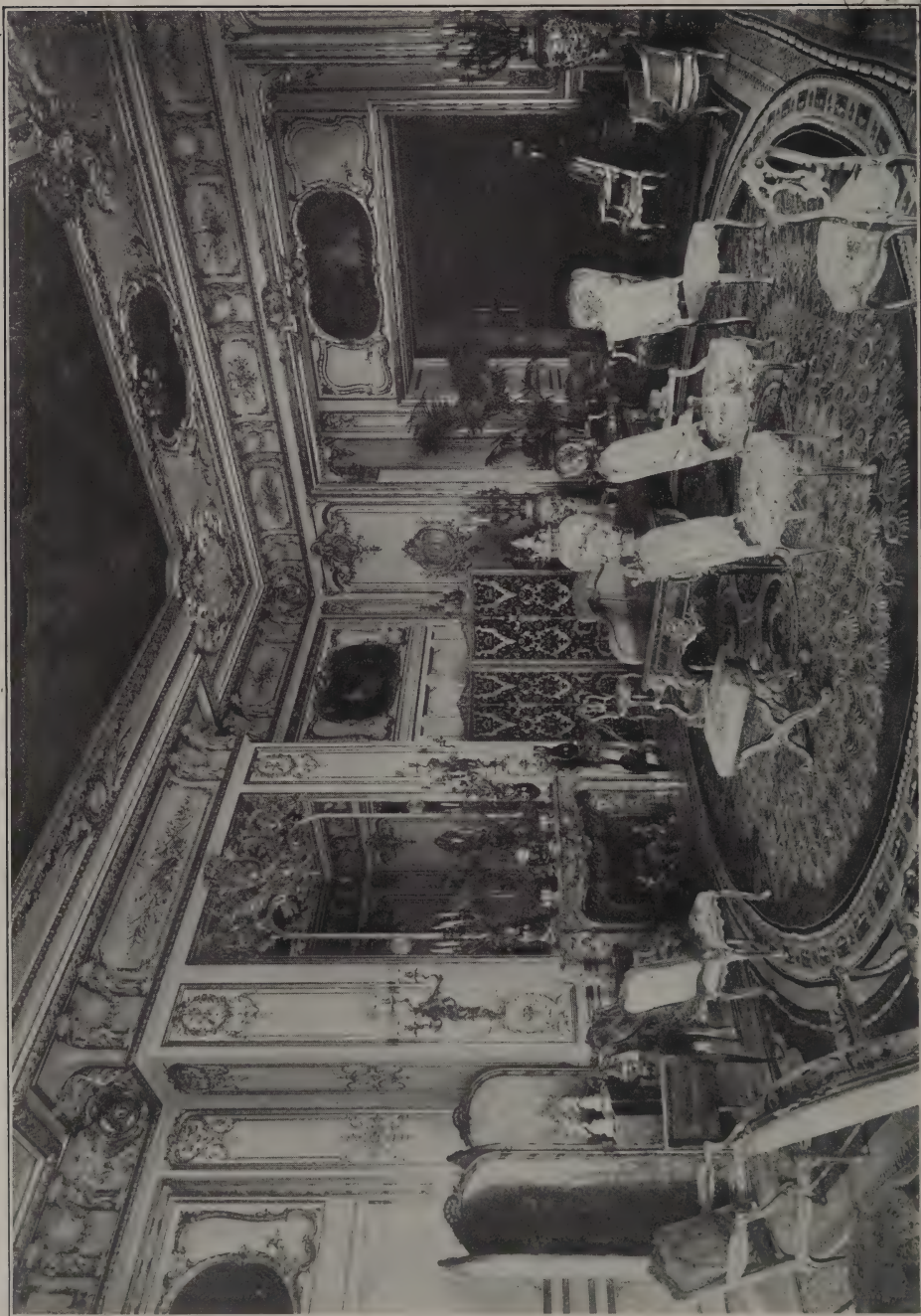
Carrère & Hastings, Architects.



DINING ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.

Carrère & Hastings, Architects.



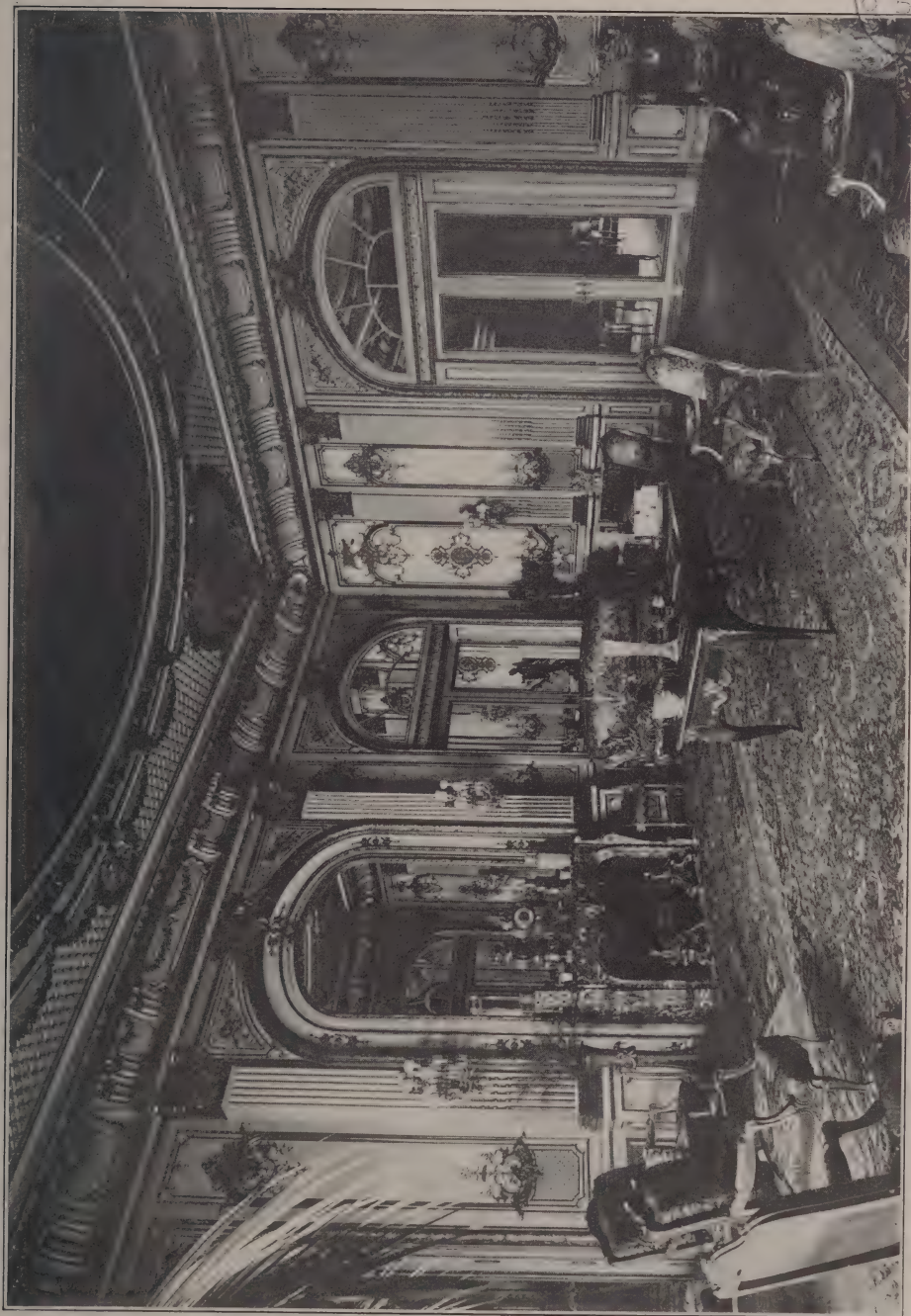


RECEPTION ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.

5th Ave. and 65th St., New York City.

The late Richard Morris Hunt, Architect.

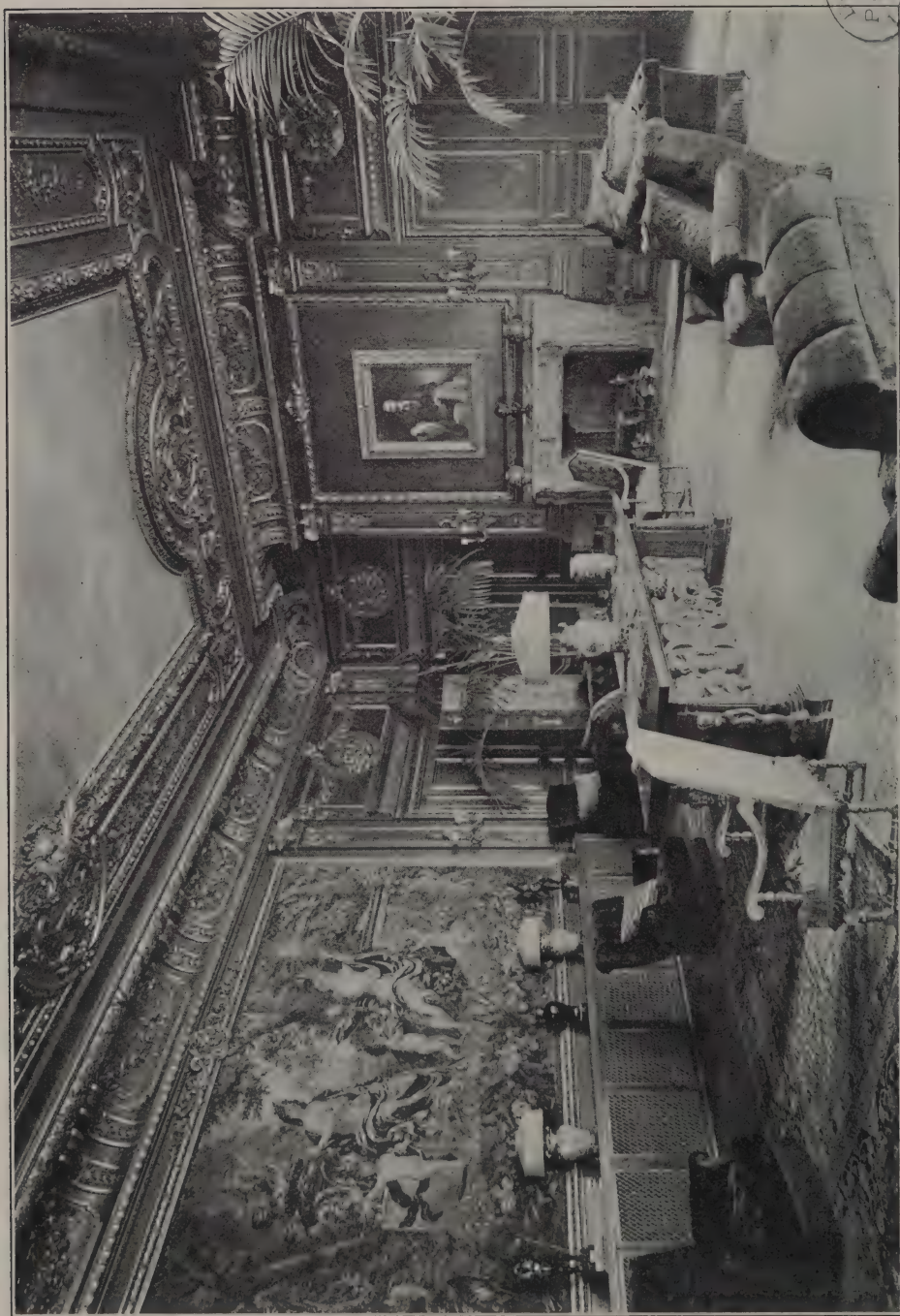




RECEPTION ROOM—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.

The late Richard Morris Hunt, Architect.



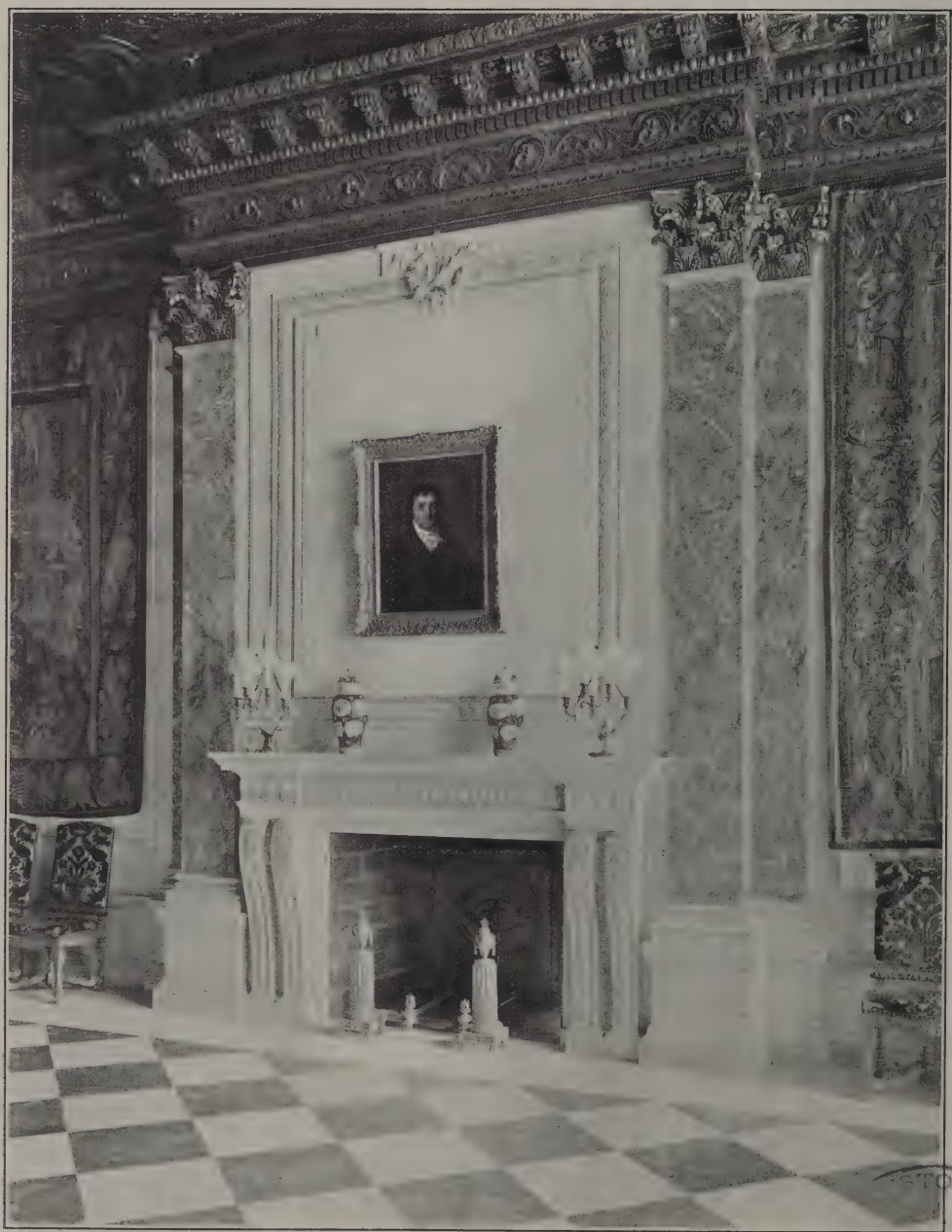


LIBRARY—RESIDENCE OF COL. JOHN JACOB ASTOR.  
 The late Richard Morris Hunt, Architect.  
 5th Ave. and 65th St., New York City.



ART GALLERY—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.  
The late Richard Morris Hunt, Architect.





DINING ROOM MANTELPIECE—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.

Carrère & Hastings, Architects.



LIBRARY MANTELPIECE—RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City.





MANTELPiece IN THE CORRIDOR SURROUNDING INTERIOR COURT—  
RESIDENCE OF COL. JOHN JACOB ASTOR.  
5th Ave. and 65th St., New York City. Carrère & Hastings, Architects.

# The Evolution of Architectural Ornament

## IV.

### Ornament with a Foliage Basis—The English Gothic School

The foliage carving of the Gothic period was entirely distinct from that of Classic tendency. It had its own origin and ran its own independent course, particularly in England, where there are few remains extant previous to the Roman occupation, these having been buried, and, for all practical purposes, not existent, during the Middle Ages. The influence even of contemporary work upon the Continent appears to have been little felt. Development there had a different origin, and while, to a certain extent, a similarity of sequence can be traced, yet, upon the whole, it is marvellous how distinctive is the English work, and yet how uniform it is throughout the whole of England; the same in Somerset as in Yorkshire, and in Cheshire as in Lincolnshire, during any particular generation, with comparatively little to indicate the influence of any one craftsman, or to differentiate the work of one man from that of another.

The first indication that there was to be a fresh evolution of foliage carving is to be seen in some of the Norman capitals, such as that illustrated in Fig. 81, from the small south door of Southwell Minster. Here the ornamentation upon the capital is mainly of the nature of a scroll, conforming with the outline of the scallops and incized after the manner of Byzantine ornament; but above the scroll occurs a series of elementary leaves, and another trefoil leaf is to be found carved on the face of the stonework just above the door itself and beneath the arch. If these have an origin at all, it is to be found in the Anthemion, but it is difficult to trace. Examples such as this are not entirely exceptional, and one even finds occasionally that the leaf develops a trifle further, as in the terminals shown to the curiously extended tail of the animal, forming a cap-

ital of Norman date, now lying in the vestibule of the Chapter House of Westminster Abbey and illustrated in Fig. 82. The leaf is here of a more natural type, closely conforming to a good deal of the foliage ornament which is to be found upon contemporary illuminated manuscripts.

These, however, only appear to have been tentative efforts. More has perhaps to be said for the broad leaves shown in Fig. 83, which represent those of the hartstongue fern before it has completely opened, and while the tips are curled over in a tight knot. Such capitals as these are occasionally found in late Norman work all over the country, but particularly along the eastern coast from Dover in the south to Newcastle in the north, and wherever Continental influence was strongly asserted. It is much more common, however, in France than in England, and can only be considered here to have been of foreign introduction.

It is Norman and not correctly speaking, Gothic; but it gives the first clue to the inspiration of Gothic carved foliage, which went straight back to nature, utterly regardless of precedents. Thus, as soon as the early Gothic style became fully established in the early part of the thirteenth century, we find an entirely new spirit at work. The idea of the broad leaf is put aside, but the suggestion contained in the half-opened tip of the fern is preserved, and it is found that thirteenth-century foliage is essentially that of the early spring. A good illustration of this is to be found in the large amount of such enrichment which occurs in Lincoln Cathedral, an early example of which, from the wall arcade of the main south transept, is shown in Fig. 84. Already the principle had become well established; the foliage rises





Fig. 81. Capital of Nook Shaft, Southwell Cathedral.

from the necking of the capitals in a number of narrow stalks, and then curls over immediately the obstruction of the overhanging portion is met with, intertwining and at times attempting to grow over and around it, but always acting like the young foliage of early spring, with knotted half-open buds and occasional half-formed trefoil or cinquefoil leaves, whose identity it is as difficult to distinguish as it is in nature. The carving is always crisp and admirably executed, sometimes bold and sometimes

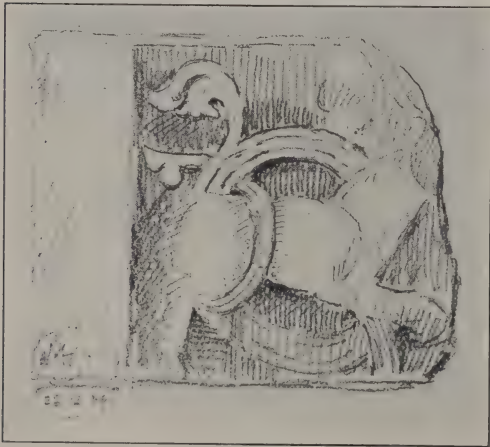


Fig. 82. Fragment of Norman Carving now in the Vestibule of the Chapter House, Westminster Abbey.

light design, according to the hand employed and the position where it is to be used, but always of the same perfect workmanship, whether it be found in a great cathedral or a little village church.

The example from Bristol Cathedral, given in Fig. 85, shows how the same general idea was occasionally adopted in connection with a less pronounced bell, the leaves in this case growing more out of the capital and having less indication of the stem springing originally

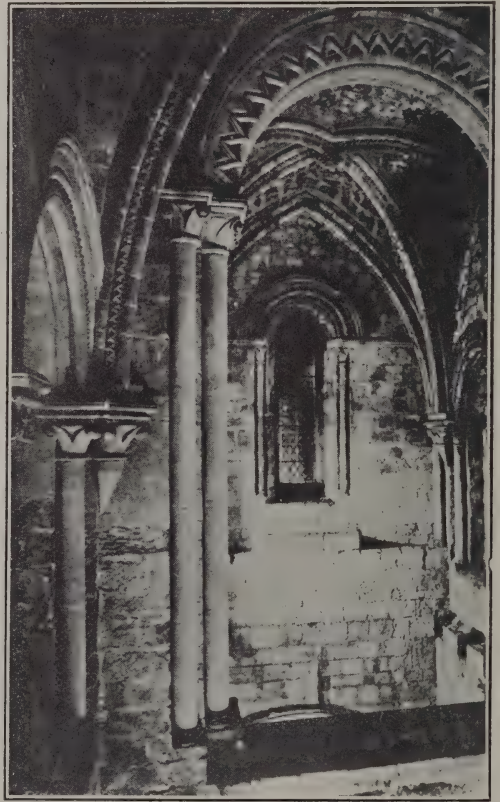


Fig. 83. The Oratory Chapel, Dover Castle.

from the necking. There is obviously a different hand at work, and to a certain extent a different recognition of the same root idea—of the treatment of spring foliage—which one could only expect, considering how far Bristol is from Lincoln. It is an example of comparatively formal treatment, just as that at Lincoln indicates the early stiffly rising stalks and the free and graceful

leaves of young spring shoots or seedlings.

At Westminster Abbey there appears to have been more freedom, though to what this is due, is quite in doubt, except, it may be, that the Abbey was wealthy and that the carvers were free to lavish any amount of skill on every little, tiny piece of work. Fig. 86 is sufficient in itself to show how they must have revelled in what they were doing: taking a bunch of natural leaves, tying them together, turning them in this way

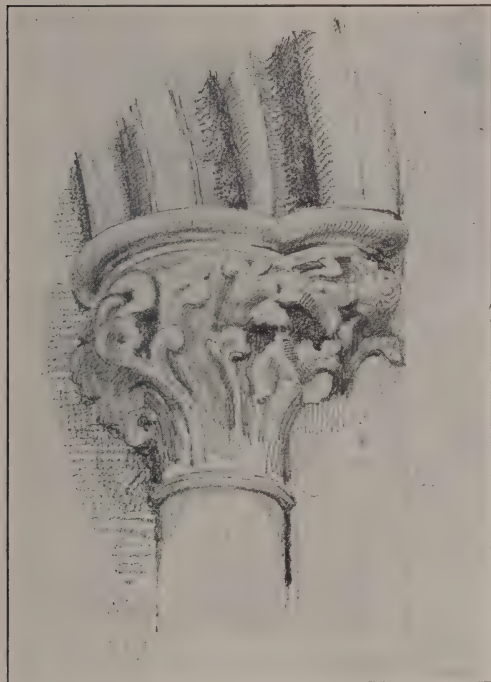


Fig. 86. Capital in the Chapel of St. John the Divine, Westminster Abbey.

and that way, and then conventionalizing in the freest possible manner, undercutting where necessary to obtain strong shadows and allowing the foliage to grow right over the projecting upper member below the abacus. The work was obviously executed at a sufficiently late date for the idea of spring to have been somewhat far advanced. The foliage, too, was not confined to the capitals of shafts; it is to be found in many a beautiful spandrel piece and in Lincoln Cathedral even, between the main pier



Fig. 84. Capital in Wall Arcade of the Main South Transept, Lincoln Cathedral.

shafts; in the latter case in the form of independent leaves or crockets of spring type, and in the Chapter House at Westminster as a constantly repeated double scroll, of which a portion is shown in Fig. 87. This, like much of the Westminster work, gives some suggestion of Continental influence, where similar scrolls are more often found (though they are rare everywhere). The constantly recurring trefoil leaf, with its central rib, may be noted—the most characteristic leaf of all of this period, though one with five bulbs is also frequently to be found. The rounded char-

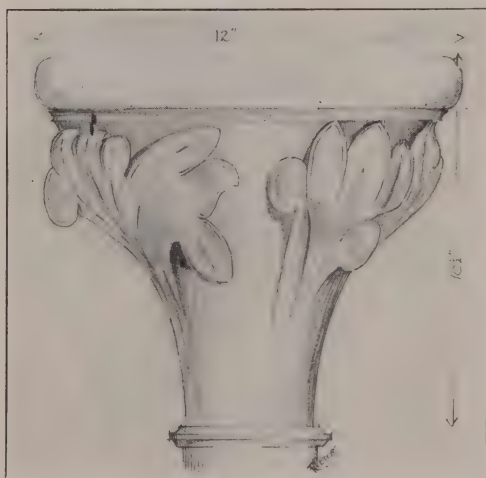


Fig. 85. Capital from Elder Lady Chapel, Bristol Cathedral.



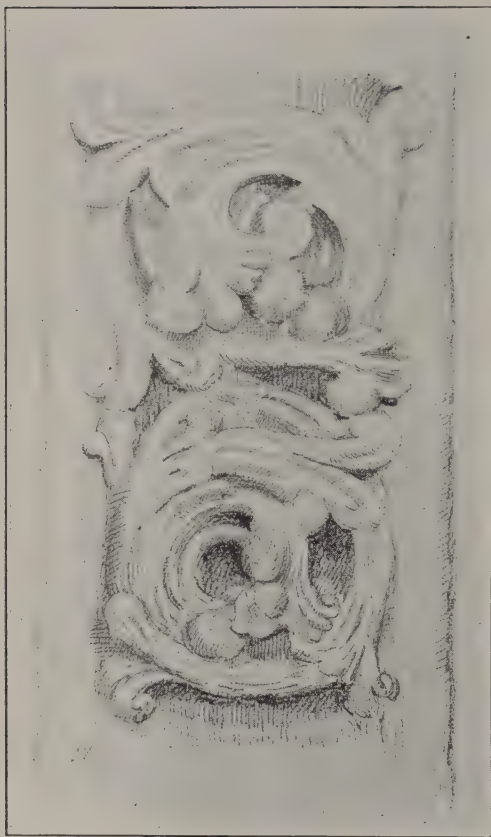


Fig. 87. Portion of Scroll Enrichment of Door Jamb, Chapter House, Westminster Abbey (13th Century).

acter of the Westminster example is somewhat exceptional, and is another indication of French influence.

Similar foliage also occurs in the arch mouldings of the Triforium, as shown in Fig. 88, the variety being extraordinary. In the example given, the leaves radiate from centers, and form, as it were, a series of bosses along the moulding; and they show a tendency to extend beyond their bounds and to cover everything, which suggests that the original idea of spring was giving way to a certain extent to one of summer's luxuriance—a sure sign that the thirteenth century was advancing.

Right up to its close, however, the general type was fairly well retained, being displayed almost in its perfection in one of the bunches of leaves acting as a corbel to the piscina in Merstham

Church, Surrey (Fig. 89), while the pair corbel to it (the nearer one) has leaves of quite a different type—still with a central stem, but more rectangular in outline, with the convolutions separated, not by mere cuts, but by a deep circular hollow. At first sight it would appear as if these two were executed at different times and by different workmen, one belonging purely to the thirteenth and the other to the fourteenth century; they are so entirely characteristic each of each. But this is not the case; so far as is known, they are contemporary and by the same hand. It only indicates that a new fashion was taking the place of the old one, which had held sway over the

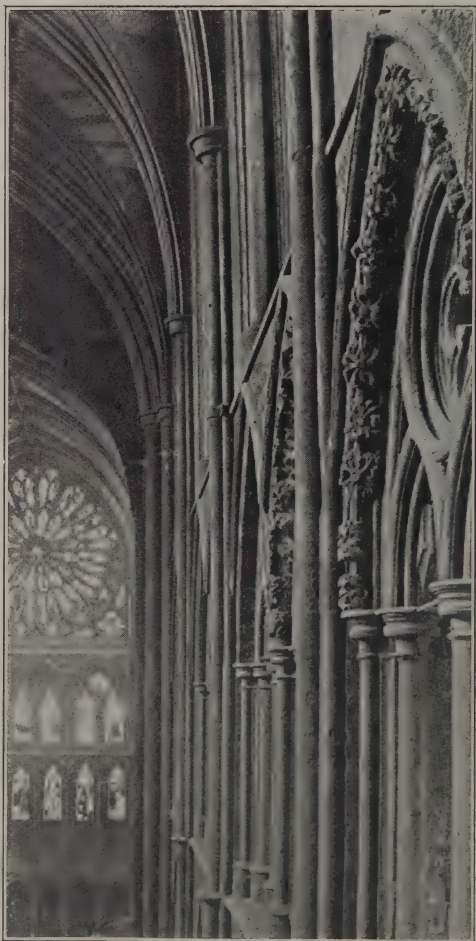


Fig. 88. Triforium Gallery of North Transept, Westminster Abbey (looking South).



Fig. 89. Piscina, Merstham Church, Surrey.

whole country and for a considerable period. In fact, summer was overtaking spring, and in this instance they are to be found, not gradually merging into one another, but side by side, just as the fully developed summer leaves on some plants are to be seen in our fields at the same time as the early shoots of others.

Very much the same thing occurs—though in one instance only—in the ar-



Fig. 91. Capital in the Arcade Leading to the Chapter House, Southwell Minster.

cade of the approach to the Chapter House at Southwell Minster, where the carving is known to have been executed within a year or two of 1300 A. D. In the instance given in Fig. 90, the fully developed thirteenth-century leaf occurs in two tiers in the capital, the upper tier well undercut, and, in fact, quite clear of the bell behind, but still of the spring-like outline; while the small leaf above,

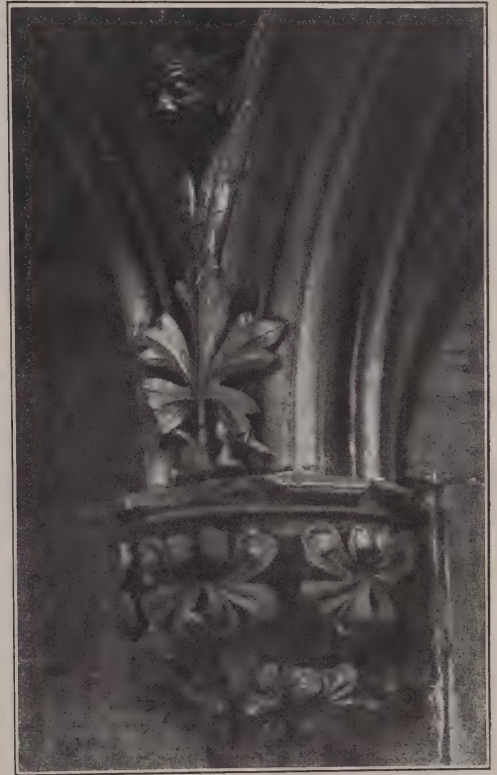


Fig. 90. Wall Arcade in Approach to Chapter House, Southwell Minster.

displaying a portion of the bough, is the fully developed summer leaf of the May tree which, as all of us know in England, comes to its full foliage at an early period of summer. In every other instance of foliage carving of the most wonderful series at Southwell, the leaves are of a natural and early summer type, and are perfectly recognizable. In the approach to the Chapter House, the work is not quite so fine as in the Chapter House itself, but Fig. 91 gives another example from the approach in which the May





Fig. 92. Capitals in Entrance to Chapter House, Southwell Minster.

flower is to be seen in composition with its leaf in the recess of the window opening, while other leaves occur in the boss above, which carries the hood moulding. There is still a certain amount of vertical tendency in the carving, and this is retained even in the well-known capitals, shown in Fig. 92, of the doorway of the Chapter House itself, which constitutes the most wonderful piece of stone carv-

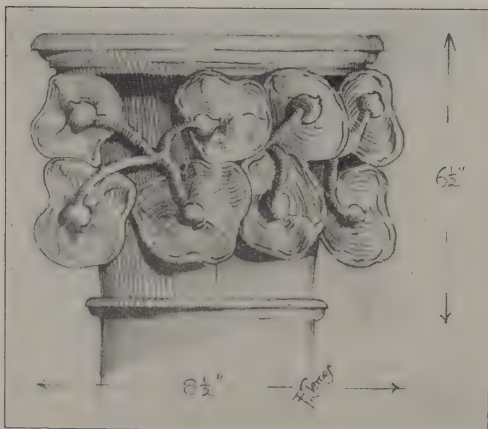


Fig. 93. Capital from Berkeley Chapel, Bristol Cathedral.

ing which England possesses. The leaves stand away perfectly clear of the surface behind, undercut in a manner which appears marvellous to the carvers of the present day. Every leaf is perfectly lifelike, and with each is associated its natural flower, berry or nut, indicating that the carvers did not feel themselves absolutely tied by this time to the representation of the foliage of any particular season. Here, in the same group, we have the May flower and the hawthorn leaf, the vine leaf and young grape, and the oak leaf with its acorn, which, as all

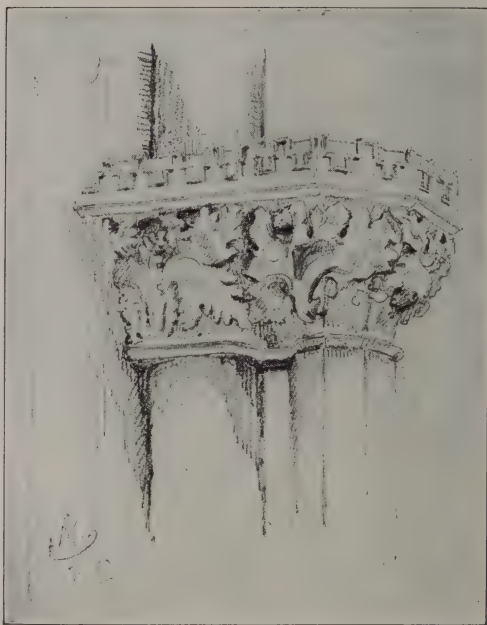


Fig. 94. Fragment of Bishop Dalderby's Shrine, Lincoln Cathedral.

observers of nature know, does not put in its appearance until the summer is well advanced. The representation is so lifelike that the photograph has almost the appearance of having been taken from clusters of the foliage itself, and this in spite of the fact that six hundred years have elapsed since the carving was executed. The stone shows scarcely any sign of weathering, but here and there the carving has suffered from deliberate or accidental destruction, as, for instance, in the hollow moulding in the jamb, from the lower portion of which it has been entirely knocked away, show-

ing how the undercutting may possibly have been done by drilling through before the stone was laid, and finishing the surface afterwards. The same process, however, could hardly have been applied to the capitals. One little point to notice is the appearance of the natural stem from which the leaves grow. This has all the appearance of the younger growth of wood and not of a substantial bough, while it is shown in each instance as lying upon the surface with its cut end displayed, and not as growing out of the necking of the capital, indicating that the carvers did actually take natural leaves and little branches for their models. Of conventionalization, there is absolutely none at all.

Unfortunately, there is very little work of this purely natural character anywhere in the world; there is certainly none which is superior to that at Southwell, where, if it was not done by one hand, it must have been all under one influence—an influence so strong as to have changed the whole idea of the carving of its time, from that of conventionalized spring foliage to the representation of the natural foliage of summer, which remains the principal characteristic of the English work from the year 1300, during the period of the great wars with France, until the breaking out of the plague known as the "Black Death" in 1349.

A somewhat exceptional example is illustrated in the capital from Berkeley Chapel at Bristol Cathedral (Fig. 93), where the leaves are shown as clustering more round the bell, while the stems are somewhat prominent. A farther example (Fig. 94) is from the only fragment now remaining of Bishop Dardery's shrine in Lincoln Cathedral, probably carved about the year 1335. The leaves are now larger, but the fact that they are not undercut merely indicates that they are not the work of the great Southwell carver, for scarcely any other work is to be found which is like his in this respect. The greater size of the leaves, however, and their detachments, are sure indications of a somewhat later date; they are the leaves of late, rather than early, summer, and are not always

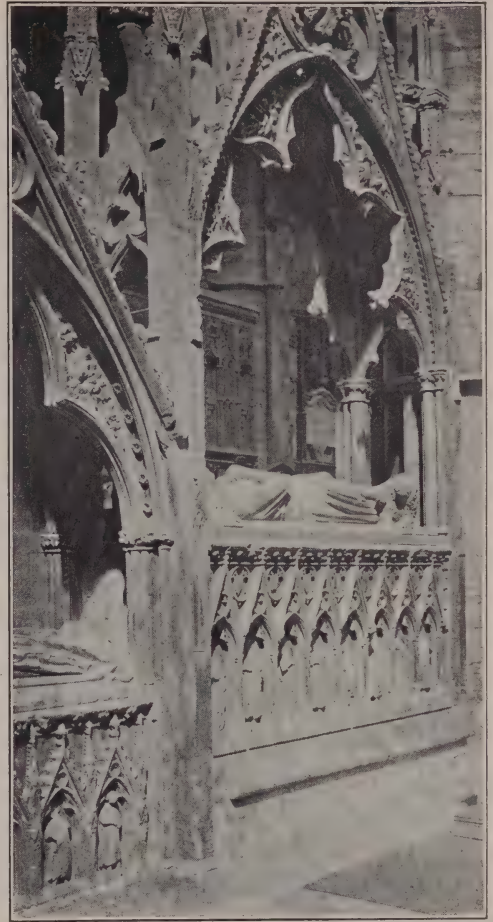


Fig. 95. Fourteenth Century Tombs, Westminster Abbey.

so easily traced to their natural origin. It may also be remarked that there is by no means so much carving in England of this period as of the previous century. The greater churches were already built, while the country was to a great extent impoverished, being drained of its money in order to prosecute the French wars. Carving, where it occurs, is generally found upon small ornaments, such as this at Lincoln and the three great tombs in Westminster Abbey, of which an illustration is given in Fig. 95. These belong to the period just precedent to the occurrence of the "Black Death." The spandrel carving, in particular, is noticeable, from the natural character of the leaves, which, like





Fig. 96. Capital from Kingston Seymour, Somerset.

those at Lincoln, represent the period of late summer, still well modeled, but not quite so crisp as at an earlier date, and, in fact, comparatively flatly treated. The scale of the photograph is, however, somewhat small for all the detail to be well observed; but it may be noticed, on close examination, that the leaves grow upon the capitals in quite a natural manner, and that the crockets also grow leaf above leaf in regular sequence, rounded in outline and connected. At an earlier period they would have been detached from one another, and at a later date they would have been angular.

The "Black Death" proved to be such a terrible scourge as to practically stop all building operations until a generation grew up which was not affected by it. Yet, strangely enough, when, about the year 1400, building recommenced, it did so upon the same tradition and almost in unbroken sequence with what had gone before. It is perhaps impossible to put an exact date to the capital from Kingston Seymour, shown in Fig. 96, but it belongs to about this period. The leaves have opened out and are still modeled in a perfectly natural manner, but the modeling is that of an old and not of a new leaf; the carvers have gone to nature, but have preferred to copy the foliage of autumn rather than that either of summer or of spring. This tendency

shows itself more and more as time goes on, combined with a gradual hardening of the outline into more or less rectangular forms, and an occasional crisp serrating of the larger leaves. Both these tendencies are indicated in Fig. 97, which shows two capitals from the northern chantry in Lincoln Cathedral, known to have been executed about the year 1430. The leaves upon the capitals are exaggeratedly large, with huge ribs and serrations, while those in the hollow moulding above show a tendency towards a rectangular outline with each lobe formed as an approximately rectangular trefoil, the leaves being connected by a continuous stem, knarled and even cut, which, as will be noticed, has been accidentally broken away in one place. Two things are clear. One of these is that the mason has been copying autumnal foliage, and the other that he has conventionalized it and has executed his



Fig. 97. Capitals in the Northern Chantry, Lincoln Cathedral.

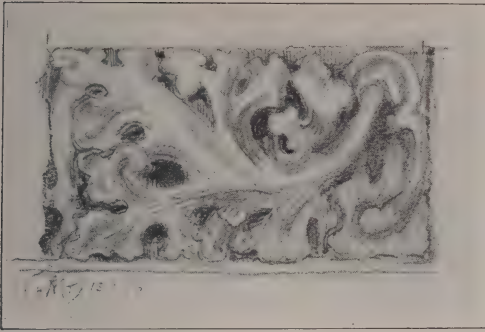


Fig. 98. Enrichment of Cornice over Entrance to South Aisle, Henry VIIth Chapel, Westminster.

stone carving from a wax or clay model, and not immediately from nature.

The fashion thus established about this date seems to have been retained for something like a hundred years; in fact, during the whole of what is known as the Perpendicular Gothic period. The foliage is everywhere autumnal and flat, and there is a large amount of it, varying comparatively little in general character. The example given in Fig. 98 from Henry VIIth's Chapel, Westminster, is very closely allied indeed to that in Fig. 97, in spite of its much later date. The only change is that between early and late autumn, for the leaf at Westminster is of the character which one associates with what is called the fall in the Western hemisphere.

A good deal of the carving of this time which still remains to us has been

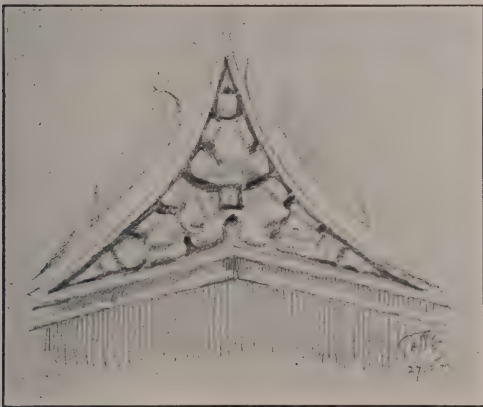


Fig. 99. 15th Century Carved Wood Span-drill in Tracery of N. Porch, Merton Church, Surrey.

carried out in wood and not in stone. A small, but typical example is given in Fig. 99, taken from the north porch of Merton Church, Surrey. The treatment is flat, and the cutting such as is eminently suited to the sharp chisel of the wood carver, rather than to the blunt

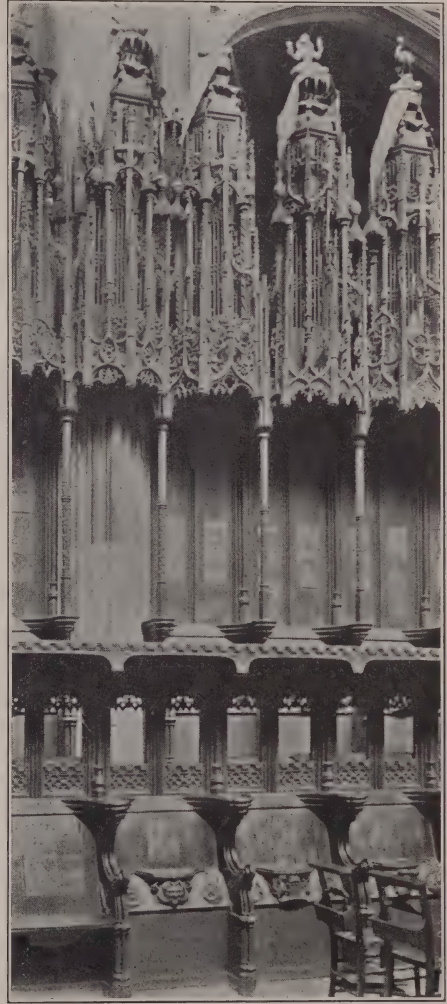


Fig. 101. Choir Stalls in Henry VIIth Chapel, Westminster Abbey.

tool of the mason. The leaf has been conventionalized out of recognition, but is well modeled upon the surface, in addition to being well serrated.

A more precisely cut example, so far as the leaves, at any rate, are concerned, and more recognizable as to what the



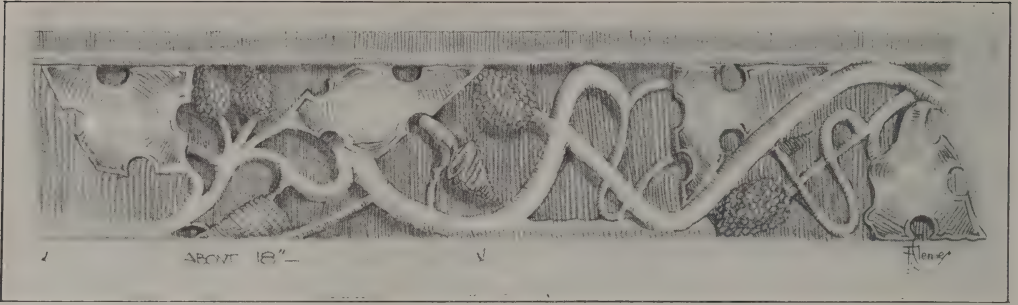


FIG. 100. SCREEN. BRISTOL CATHEDRAL. (PART OF CRESTING, ETC.).

leaf is intended to represent, is that shown in Fig. 100, illustrating a small portion of the cresting of the screen in Bristol Cathedral, with its sharp autumnal twisted bough, its sharp angular leaves, conventionally representing those of the vine, and the knots of grapes and the twisted tendrils. The steadily increasing appearance of the bough or stem, and the disappearance of the leaf, is another indication of the later period in England. This was rarely carried to the extreme of displaying the bare bough of winter, as the Reformation put a sudden stop to the development of English Gothic work; but even this is to be seen in the canopies of the choir stalls in Henry VII.'s Chapel, Westminster (Fig. 101), which are amongst the latest specimens of Gothic carving in the country. A few leaves are to be observed, here and there, of a greatly decayed type, such as might be left throughout the whole of winter time upon a tree from which the greater part had fallen, but the foliage, if foliage it can be called, consists almost entirely of bare twisted boughs, not easily distinguishable in a photograph from the tracery of the canopy head itself.

How it came about, we cannot now determine, but it is clear to any who have observed closely that there is this regular sequence in Gothic foliage carving, following that of nature. That if the thirteenth century represents the spring, that of the fourteenth century more than indicates the summer, and that of the fifteenth century doubtless the autumn merging into winter. Occasionally divergencies from this, such as the appear-

ance of the acorn amongst the early summer foliage of Southwell Chapter House, cannot be taken to disprove the general tendency; they only go to show that the carvers were not working with deliberation. It is, in fact, impossible to believe that the men of the thirteenth century, with their ideas of spring and opening life, could have had any foreknowledge of what their grandsons and their grandsons' grandsons might do. They could not have known that those who were to follow them would supersede spring by summer and summer by autumn. Even the later men may not have recognized what they were doing. They followed a gradually changing fashion, which for the period was universal throughout the country. In all



Fig. 102. Terminal to Hood Moulding, Uppingham School Chapel.

cases they went to nature for their inspiration.

Neither of these facts seems to have been fully appreciated during the Gothic revival of fifty years ago. In all the books of that time the thirteenth and the fifteenth century foliage is spoken of as conventional; the first as stiff-leaved or stiff-stalked, and the last as rectangular. To a certain extent the writers were correct, but had they recognized the succession of the seasons probably better work would have been done by the masons who put their theories into practice.

With workmanship which fell little short of that of their Gothic forefathers, and with an almost equal appreciation of beauty of form, they occasionally committed incongruities, such as the introduction of the autumnal grape amongst a group of spring leaves, as shown in Fig. 102, which illustrates one of the terminals to a hood moulding in the chapel connected with Uppingham School.

*G. A. T. Middleton, A. R. I. B. A.,  
President of the Society of Architects,  
England.*





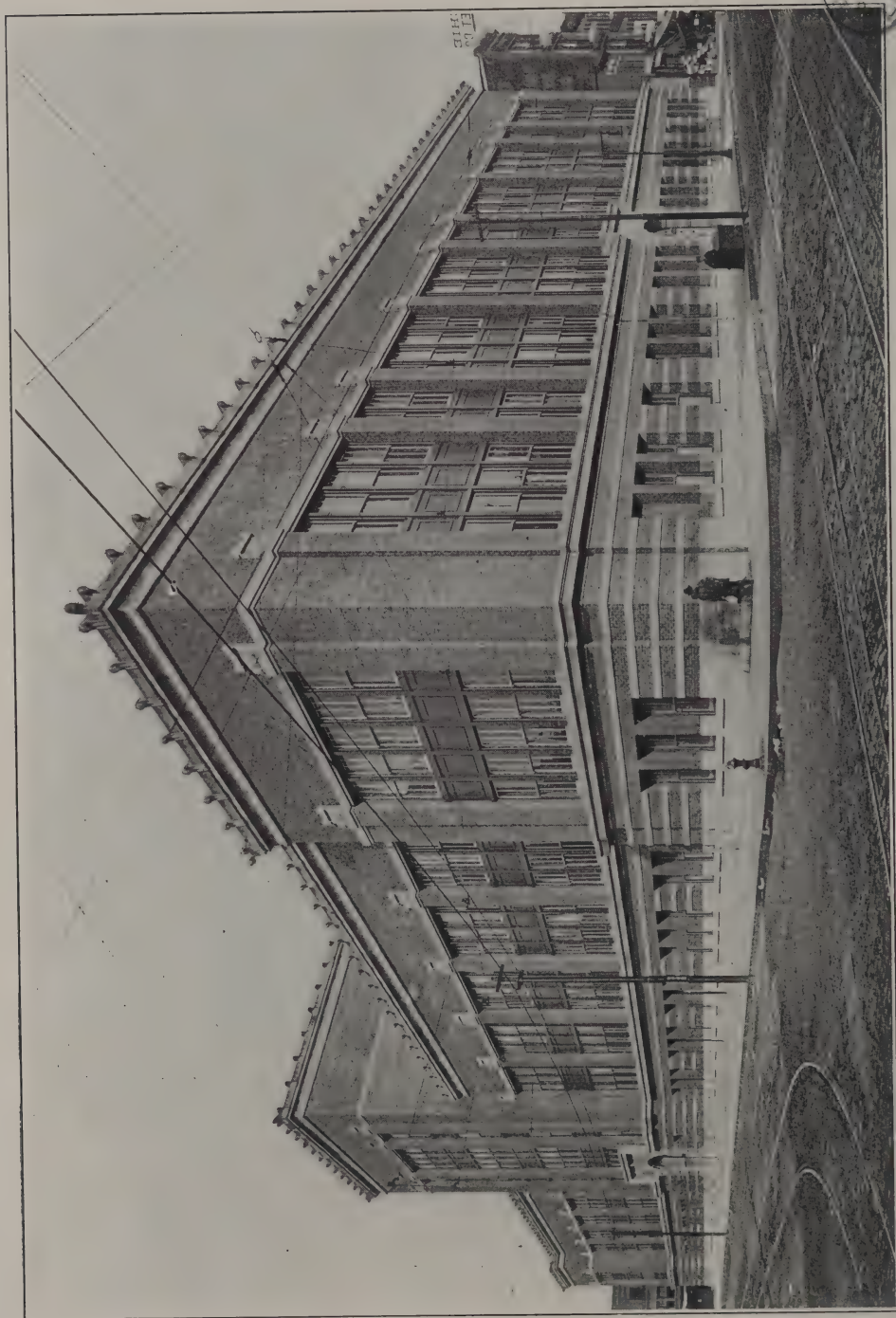


FIG. 1. ALBERT G. LANE TECHNICAL HIGH SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.



# Public School Architecture at Chicago

THE WORK OF DWIGHT H. PERKINS

The City of Chicago chooses its school architect by competitive examination. The examinations are very thorough, and are conducted by the Civil Service Commission. They are managed and judged by the best architects in the City. Hence no one can be architect for the Board of Education unless he knows how to plan, design and construct schools with his own hands, and is not necessarily dependent upon designers and draftsmen. The designs of the Chicago schools are therefore the designs of the school architect, even though he has the assistance of fifty or more assistants of all kinds in the architectural department of the Board. For the Board maintains an admirably appointed architectural office, with the necessary specialists under salary, all of whom, as well as the draftsmen, specification writers and clerks of works are appointed after competitive examinations. In conjunction with the Architectural office is that of the Engineer, who, with necessary assistants, looks after the planning and execution of all the heating, ventilating, plumbing and mechanical equipment of the schools. The Constructional engineering is all attended to in the Architectural department, the services of outside Civil Engineers not being necessary, because skyscrapers with elaborate and costly foundations and steel frames are not required in school architecture.

The present architect of the Board of Education is Dwight Heald Perkins, F. A. I. A. (or was when this was written). His predecessor was William Bryce Mundie, F. A. I. A., and the predecessor of the latter was Normand S. Patton, F. A. I. A. Mr. Perkins has held the office five years. During this time about forty new schools and additions to schools have been erected from his designs, and under his direction. They all give evidence of the progressive

spirit and independent thought that have characterized the work of a large number of Chicago architects during this time, illustrations of which have appeared in the Architectural Record for the last three months. Mr. Perkins's schools comprise the whole range of school planning from the great Technical High schools down to the one story school for crippled children. From these I have selected eight typical examples for illustrations.

During Mr. Perkins's term of office the law has required that all schools three stories or more in height shall be erected in a fireproof manner, hence the buildings are of a more permanent character than any previously erected. The high many-storied buildings have also been abandoned, and schools are now given a larger amount of surrounding open spaces than formerly; in some cases having extensive play grounds, in others being adjacent to the public playgrounds which have recently been established by the Park Commissions. Mr. Perkins may be called the father of the Small Park and Play-ground System of Chicago, having first suggested it and having been a member of the Small Parks Commission since its organization. He is also the first advocate of what is known as the "Outer Park System" and has planned a series of parks connected by parkways, completely surrounding the City except on the lake side, which will undoubtedly be so connected in the near future, extending through the still wooded and beautiful rural districts of Cook County, and following natural streams in many places.

Formerly the public schools were designed in the conventional styles, which involved attempts to give them "architectural effects," a few of them with good results, but most of them commonplace. These buildings were exteriorly more elaborate and costly than those designed



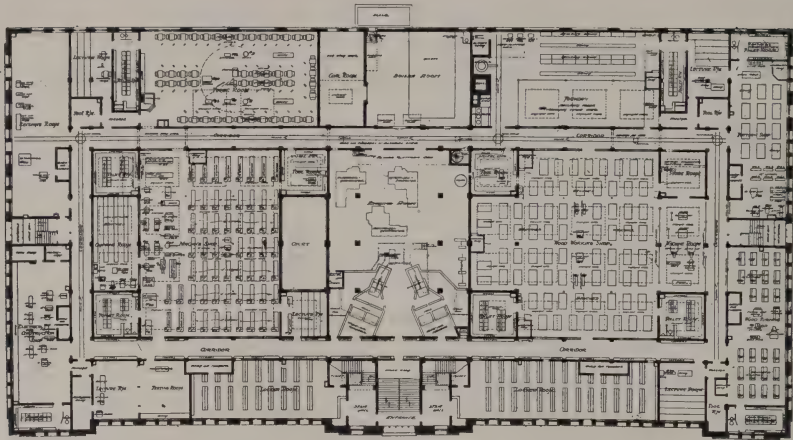


FIG. 2. ALBERT G. LANE TECHNICAL HIGH SCHOOL.  
Ground Floor Plan.

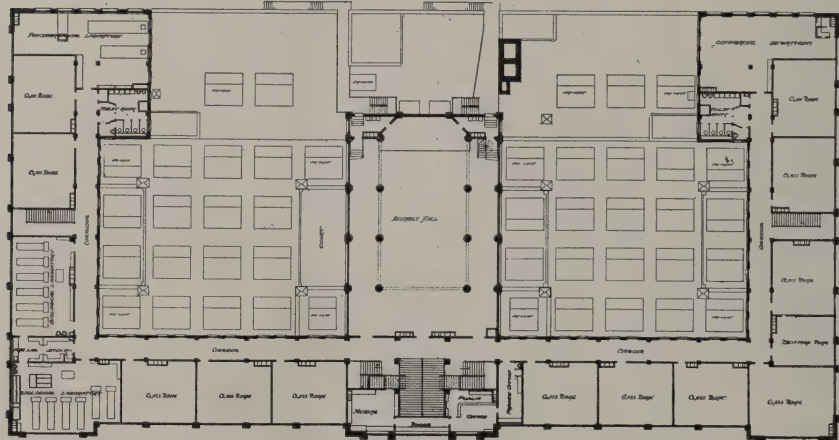


FIG. 3. ALBERT G. LANE TECHNICAL HIGH SCHOOL.  
First Floor Plan.

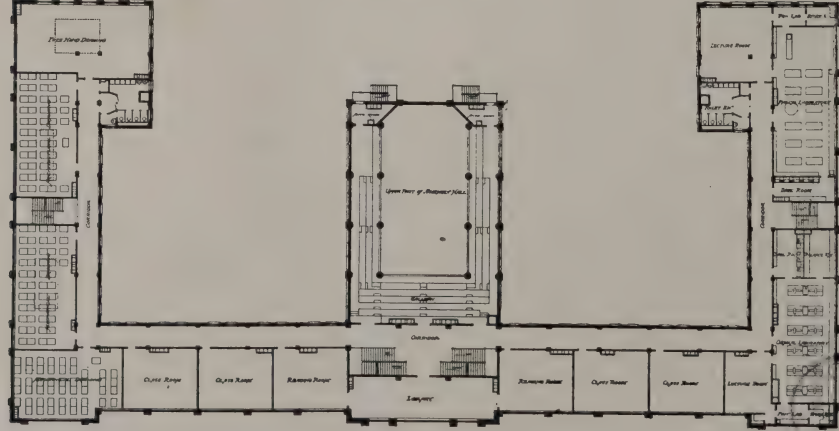


FIG. 4. ALBERT G. LANE TECHNICAL HIGH SCHOOL.  
Second Floor Plan.



FIG. 5. ALBERT G. LANE TECHNICAL HIGH SCHOOL—CENTER ENTRANCE.  
Chicago, Ill. Dwight H. Perkins, Architect.



by Mr. Perkins. But he has not given us any more of the kind with pilastered walls, terra-cotta Renaissance capitals and galvanized iron cornices. They are all either of brick and stone or brick and terra-cotta, each in its right place as a constructive material fulfilling the purposes as planned.

One of the first buildings that Mr. Perkins was called upon to design was the Albert G. Lane Technical High School. Chicago has many high schools and several manual training schools. But five

alone a preparatory school for the universities. It is not expected that any large number of its graduates will be able to continue their education farther. Its main purpose is to furnish a good education for foremen and superintendents of manufacturing establishments, and to supply a higher order of mechanics than those who are obliged to work upward through manual labor alone. It was established in what might be called a mechanics' neighborhood, if not a poor neighborhood. An entire city



FIG. 6. ALBERT G. LANE TECHNICAL HIGH SCHOOL—WOOD WORKING SHOP.

Chicago, Ill.

Dwight H. Perkins, Architect.

years ago it was decided to establish a school which in the instruction that it offers, should stand between the high school and the technical universities which confer degrees. In the Lane School the highest course of education furnished by the Board of Education is given. Scholars graduated from it may enter any of the universities that carry technical education into the higher theoretical branches. But this Technical High School performs a still more important duty to the people. It is not

block was procured, part of which had been formerly occupied by one of the oldest public schools. (See Figs. 1, 2, 3, 4, 5 and 6.) Three floor plans are shown in the illustrations. The ground floor is nearly on a level with the surrounding streets. There are only two stories above this, both with ceilings of good height, for many of the rooms are large. Only the central section is carried up two stories higher above the assembly hall, which has a gallery occupying a full story. The story immediately over the

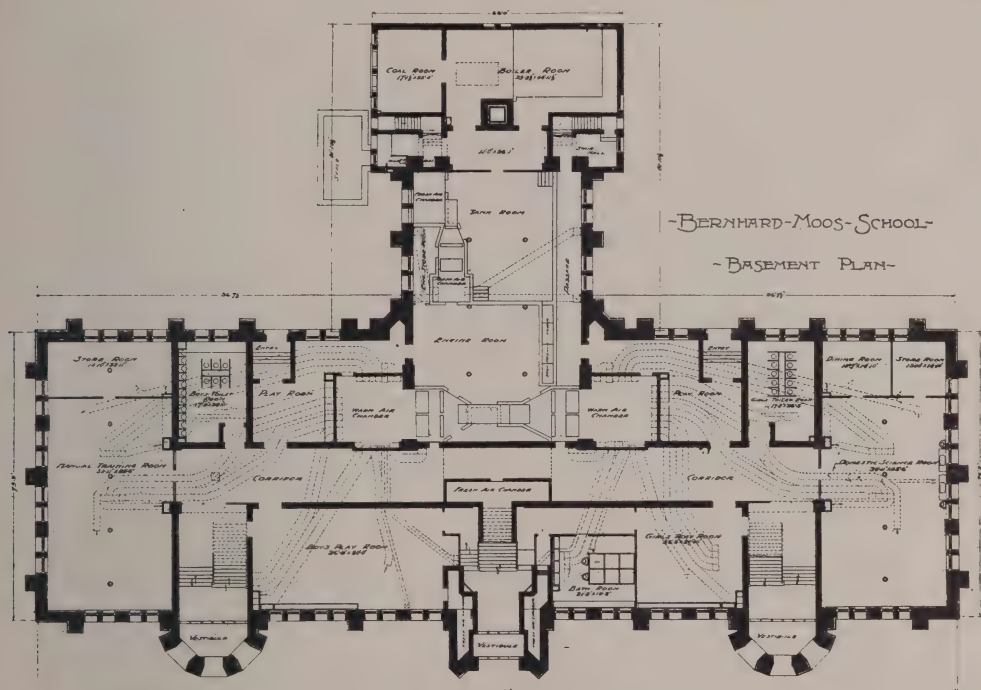


FIG. 8. BERNHARD MOOS SCHOOL.  
Basement Plan.

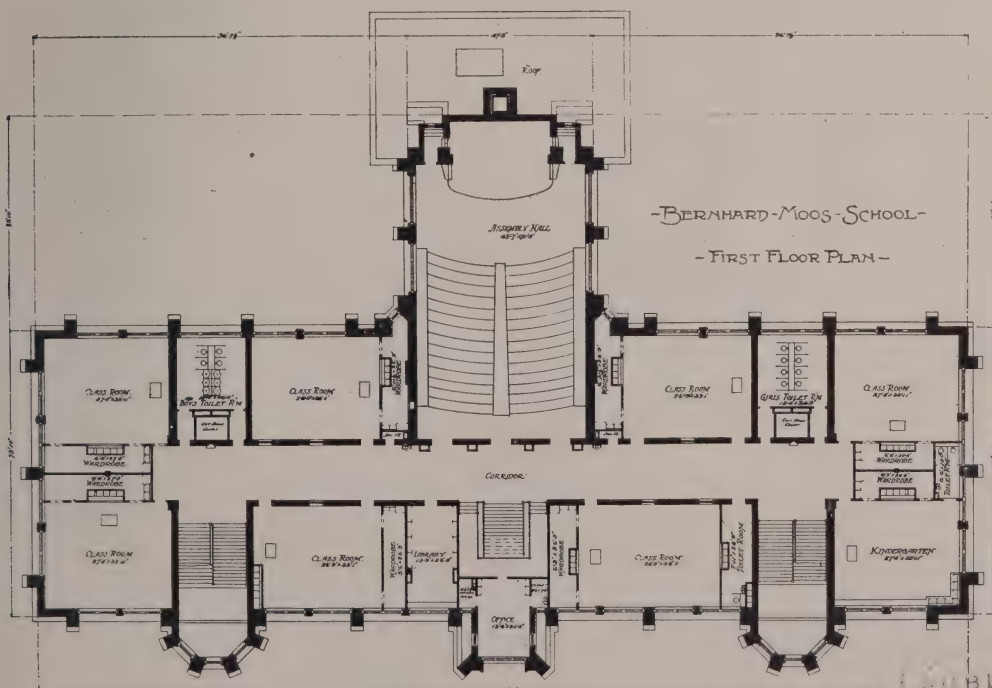
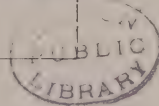


FIG. 9. BERNHARD MOOS SCHOOL.  
First Floor Plan.





LIBRARY  
OF THE  
CITY OF CHICAGO

Dwight H. Perkins, Architect.

FIG. 7. BERNHARD MOOS SCHOOL—FRONT VIEW.

Chicago, Ill.





FIG. 10. BERNHARD MOOS SCHOOL—EAST FRONT.

Chicago, Ill.

Dwight H. Perkins, Architect.



assembly hall is a lunch room, where meals are furnished to the students at reasonable prices. Over this is the gymnasium, with a gallery for a running track. To attempt any more detailed description of the plans is impracticable in the limits of this article. Moreover, it is impossible, in the compass of a magazine page, to illustrate the minutiae of the ground floors of such an immense building. A fair

of one of the newest grade schools for which ample ground room was furnished and thorough lighting afforded. It has also a large assembly hall in a rear extension. This building has a ground-floor story and three floors above it, and is as high as any of the schools are allowed to be built. It is quite unnecessary to repeat that this and all the schools illustrated are fireproof buildings. One of the fireproof stairways is



FIG. 11. PUPILS' STAIRCASE—BERNHARD MOOS SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.

idea of how the wood-working department is used may be obtained in the illustration from photograph. The power plant on the ground floor serves also as a department for instruction. The illustrations of the exterior speak for themselves. They are entirely rational developments of the ground plans in brick and stone, without any attempt to introduce extraneous ornament.

The Bernhard Moos School (Figs. 7, 8, 9, 10 and 11) is a typical illustration

given in an illustration. The exterior walls are all buttressed for strength, not for ornament, and are made effective with the simple details employed in the offsets, and as combined with the wall coping, whose line is carried continuously around the entire building, producing a marked effect of unity. The polygonal towers contain only the platforms of the stairways, and the projecting entrance is all utilized, as will be seen by the plans. This effect of unity and harmony is se-

cured by the use of only one sectional detail for every part of the terra cotta work.

Another school that is illustrated with ground plans is the Stephen K. Hayt (Figs. 12, 13 and 14). This is also a three-story and high basement building, of which two plans are given. It is more compact than the last mentioned. The basement story covers nearly the whole of the ground. But this building was erected before it was decided to

it forms a permanent screen for lantern illustrations. These are required not only in school lectures but in public lectures for which these assembly halls are used through the gratuitous service of the Chicago "Daily News." The illustrations of the exterior show that this building is faced with a light-colored pressed brick. The lines of the arches over the clubbed window openings and the wall copings are gracefully treated, and the entrances, while not so well han-

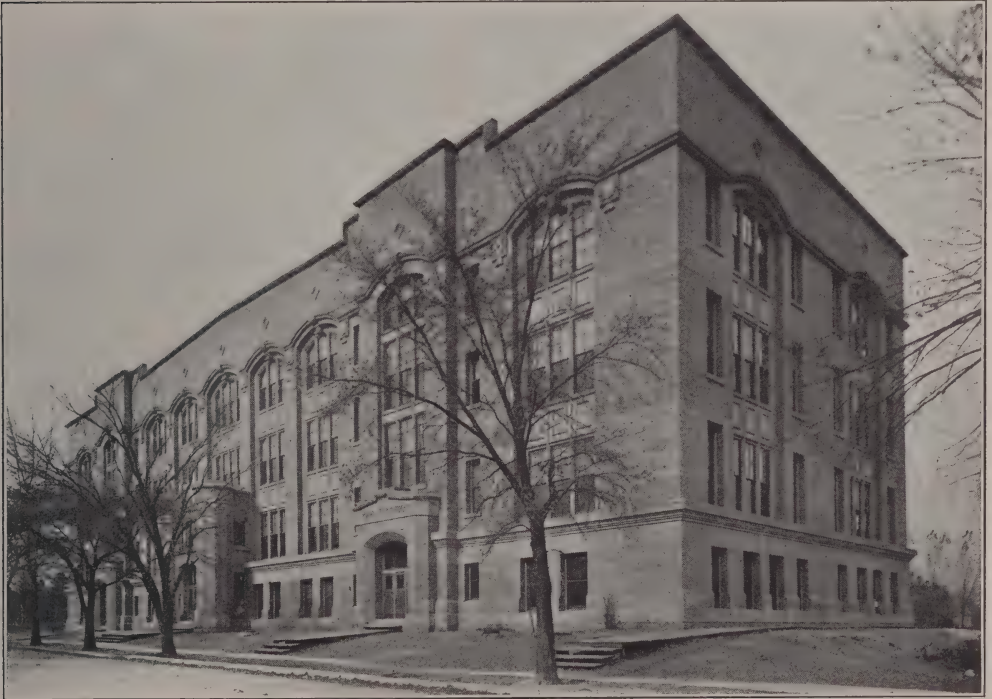


FIG. 12. STEPHEN K. HAYT ELEMENTARY SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.

place the toilet rooms on all the floors, distributing them much as would be the case in a hotel. Here the toilet rooms are in separate buildings on the ground floor, connected with the play rooms, an old standing plan that should have been abandoned long ago. This building has an assembly hall which projects only half its length from the general line of the exterior walls. The back wall at the stage end is neither æsthetic nor good for acoustics. The only practical excuse for leaving it plain is that

dled as those of the Moos School, a later creation, are not overloaded with ornament. The photograph was taken before the approaches had been attended to.

Another building of the flat-roof type is the George W. Tilton School, just completed in the westerly part of the city. It is shown in one exterior view (Fig. 15), and a view of the domed assembly hall (Fig. 16). This is a large building with a court in the center, where is located the assembly hall, of large seating capacity, with its gallery and



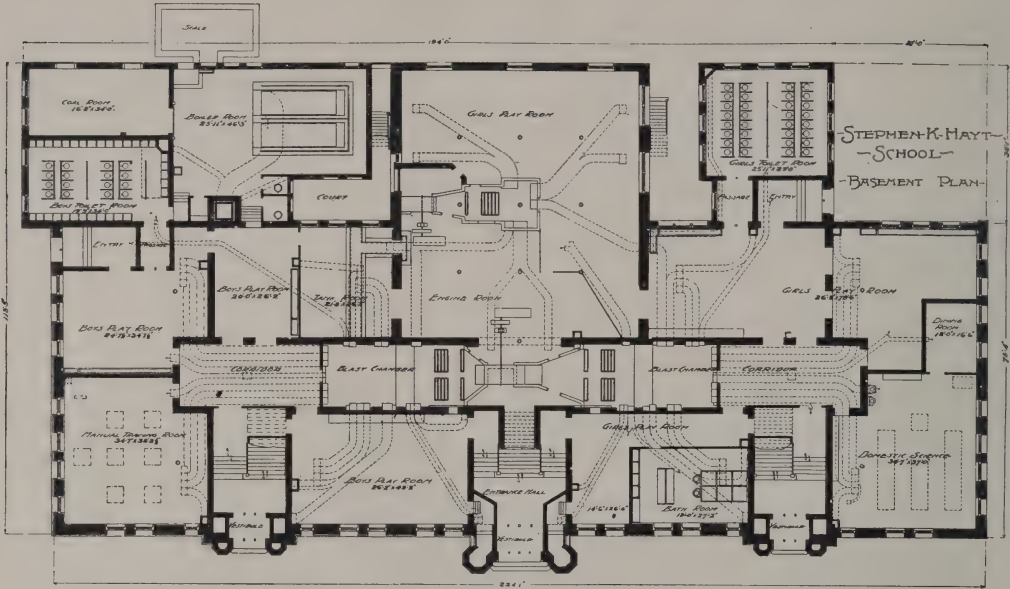


FIG. 13. STEPHEN K. HAYT SCHOOL.  
Basement Plan.

high ceiling. The walls of the lower part of this hall are faced with tile in two colors, arranged in a simple pattern. Observe how the lines of the very plain gallery front are carried entirely around the back wall, and the ventilating registers in the soffits of the great arches serve the purpose of relieving their monotony. By placing them there it is ad-

mitted that there is no pretense that these arches are anything else than steel fur-rings covered with metal lathing and plaster. The exterior of this building is a study in brick of two colors. They are all Norman shape speckled buff pressed brick in two shades. The light buff bricks are laid with white mortar; the dark buff in brown mortar. All horizon-

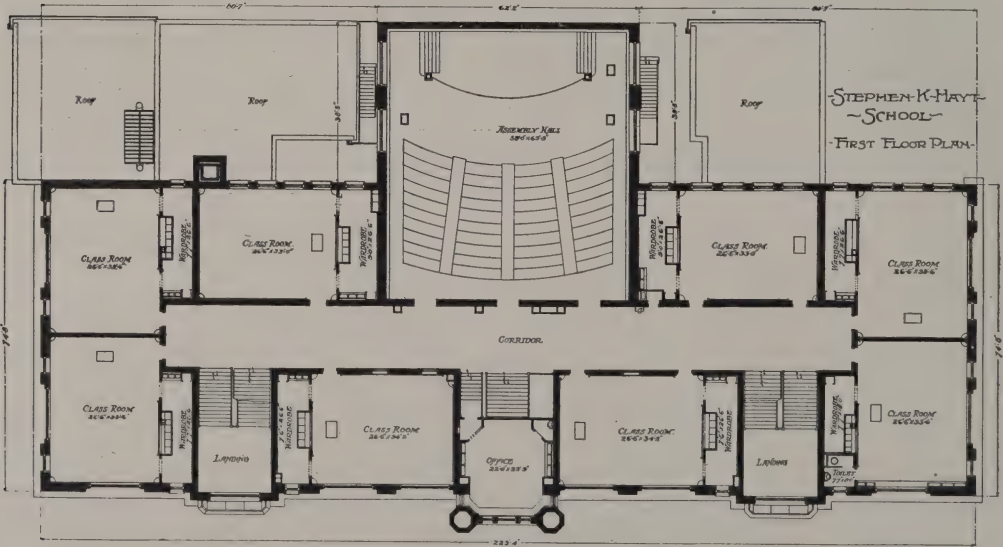


FIG. 14. STEPHEN K. HAYT SCHOOL.  
First Floor Plan.

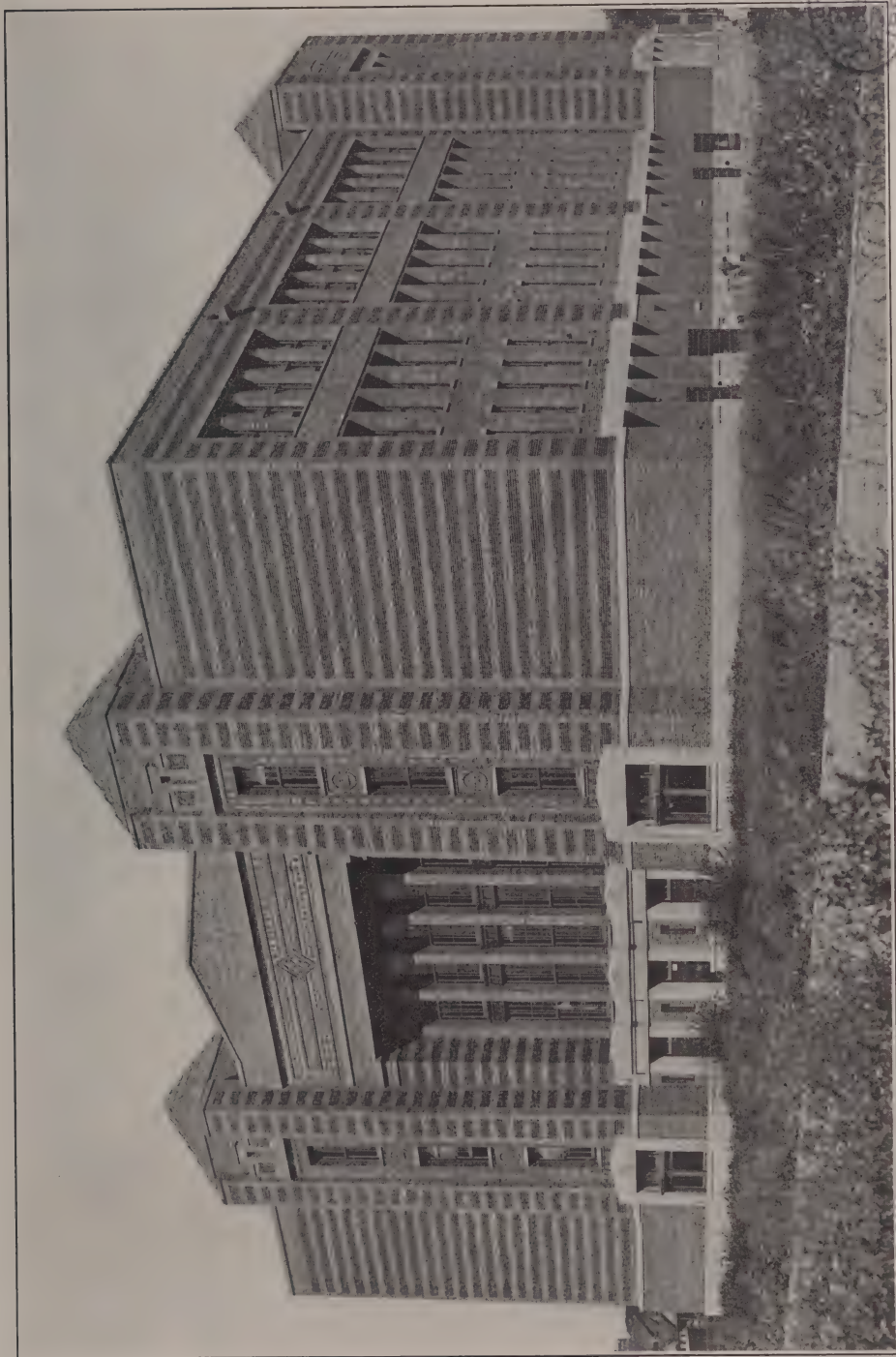


FIG. 15. FRONT VIEW—GEORGE W. TILTON SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.





tal joints are one half inch thick and raked out one half inch deep. Vertical joints are close and struck flush. Here the sides of the class rooms, which are not allowed to have light except on one side, leave surfaces for a bold and simple decoration executed in these bricks of two shades, without any projection whatsoever. No stonework is allowed above the ground floor to spoil the effect of a solid mass of brick. Only

This is of light-colored brick, and, what is unusual with Mr. Perkins' designs, has an overhanging roof. It must be noted that it is a tiled roof, and therefore the projecting eaves are logical. But there is much more to be observed about these eaves. The leader heads and copper leaders are connected with the gutters at every exterior angle of the roof; these are brought to the recessed angles of the walls, made expressly for



FIG. 16. ASSEMBLY HALL—GEORGE W. TILTON SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.

terra cotta of the same color is used. The grounds, overgrown with the dry weeds of last summer, look very picturesque, as shown in the view. They will be more practicable as playgrounds, if not more beautiful, when the approach work is completed. This is the most successful of all Mr. Perkins' designs.

Another building which is somewhat related to the Hayt School is the Friedrich Ludwig Jahn School (Fig. 17).

them with curves, the grace of which is the result of a refined appreciation of the importance of small things. I said they enter recesses made for them, but a second look will show that the entire exterior walls are buttressed, and that the architect did not go out of his way to make channels at the angles of the walls, but that where the angle buttresses came together they left just the amount of room required for the leaders,

which then became integral parts of the architect's design. The echo of the tiled roof is seen in the hood over the central entrance, probably the teachers' entrance, for it will be observed that there are larger entrances on the ends of the building for the scholars. These are without the hoods. It will probably be remarked that this is the first of the examples thus far cited which show any carving. It is only seen at the tops of the buttresses and at the pylons on both sides of the entrances, and is similar in character throughout. It looks as though it were terra cotta, but I am not informed. Its presence here reminds us that we can approve and admire the designs of such an architect as Mr. Perkins without missing that ornament which so many regard as a necessary concomitant of beauty, and be quite unaware of it until we come across a slight suggestion of ornament.

The design of the William Penn School (Fig. 18) is to a certain extent related to that of the Jahn School, their plans being identical. Here we have the same tile roof with overhanging eaves and gutter. But the leaders to carry off the water are not in evidence. There is again an echo of the roof in the tiled porch at the main entrance. But both the eaves and the porch roof seem to be supported by wooden brackets, which are not only inconsistent with the dignity of a city school, but are combustible features of the exterior which should not be allowed on any schoolhouse. The clubbed windows on the main front in the recessed part are arched, but all the other clubbed windows have flat so-called arches. That is an inconsistency in design. It looks as if it were done for "variety." But the search for variety is at variance with rational design. There are no exterior buttresses, because the walls are thicker than in the building last considered. This building may be satisfactory practically, but cannot be praised æsthetically in all its parts. I am informed that this exterior was designed earlier than that of the Jahn School mentioned above, which is an evident improvement.

In the Rogers School (Figs. 19 and 20) we are reminded of the influence of

some of Mr. Perkins' contemporaries. The first evidence of the emancipation of a few Chicago architects from the old conventional theories of design was seen in the determination to make the walls of the building, which perform the main function in their construction, assert their own dignity; to leave them blank where no windows were wanted, and to cease treating them as surfaces for the support of so-called ornament. This was the Roman way. But the Romans had only the coarsest materials out of which to construct their walls, and not the excellent bricks and stone of many kinds which we have in profusion. They needed architects only for their sacred temples; all other buildings of importance that they erected required only the services of engineers and decorators, the latter of whom covered up the engineers' work with surface ornament, mostly in imitation of the exterior designs of the architects, as seen in buildings more logical in design. This Rogers School shows what can be done on a building of supreme simplicity in design and carefully studied proportion in its various parts. If it is not an important work of art, it has at least preserved its dignity and purity, without having recourse for inspiration to the works of our ancestors.

The concluding illustrations show the Jesse Spalding School for Crippled Children (Figs. 21 and 22). This is a one-story building, as it should be, and without ornament. Most of the children are brought in omnibuses, which deliver them under a carriage porch at the main entrance. Those who go in self-propelled vehicles can ride directly into the play room, where they leave them, and from that enter their class rooms directly. They also have a dining room. The exterior suggests a large cottage, with brick walls and slated roof. Wooden eaves and barge boards may be excused in a one-story building like this. Economy also may have dictated the use of wood in the construction of the roof, there being no legal requirement that one-story buildings shall be fireproof. The building is less interesting for its architecture than for its solution of one



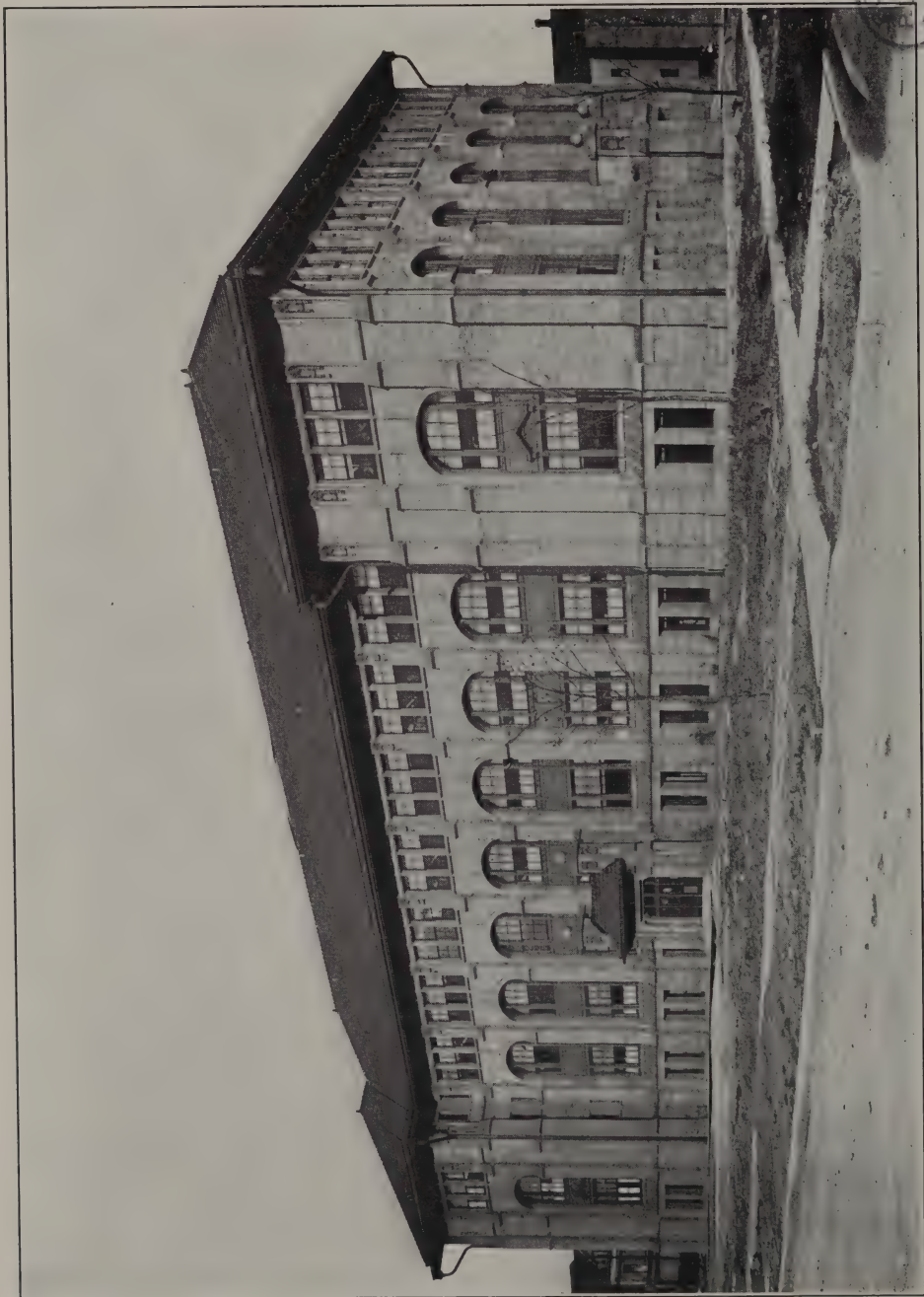


FIG. 17. FRONT VIEW—FRIEDRICH LUDWIG JAHN SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.

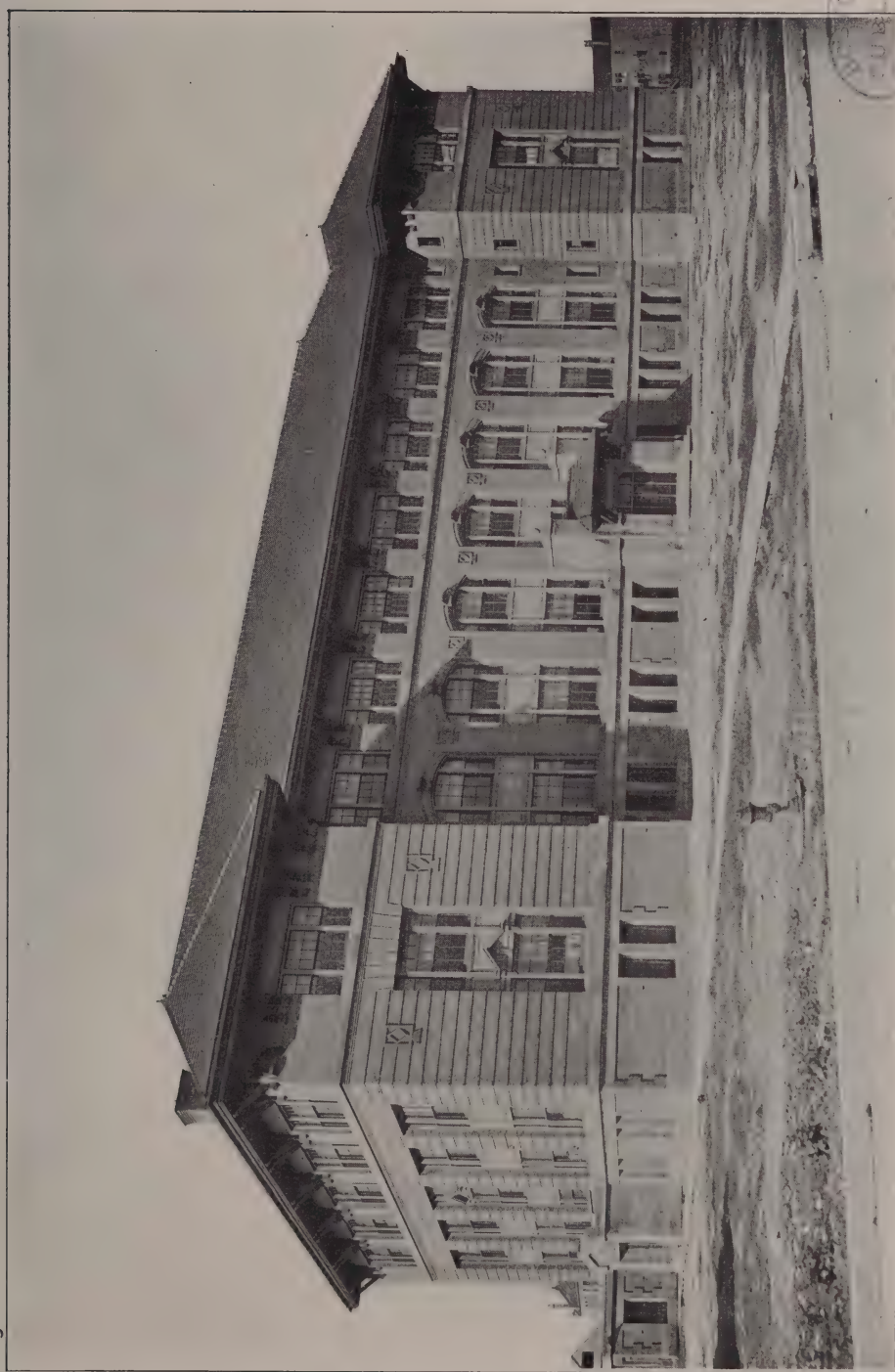


FIG. 18. FRONT VIEW—WM. PENN SCHOOL,

Chicago, Ill.

Dwight H. Perkins, Architect.



of the most recent problems in popular and universal education.

While these words are being written, Mr. Perkins is in the midst of a trial by the trial committee of the Board of Education of the City of Chicago, on charges of "incompetency, extravagance and insubordination." As no intelligent specifications covering these charges have been submitted, and such evidence as has been presented against him ap-

should form an element in his defense, it will be too late for it to have an effect upon its result. But there is a larger jury that it will reach, composed not only of those architects who are best competent to form an opinion of the merits of a confrere's work, but of a large and appreciative reading public. From this evidence they may be able to judge of his competence to carry out important work, in the face of the usual

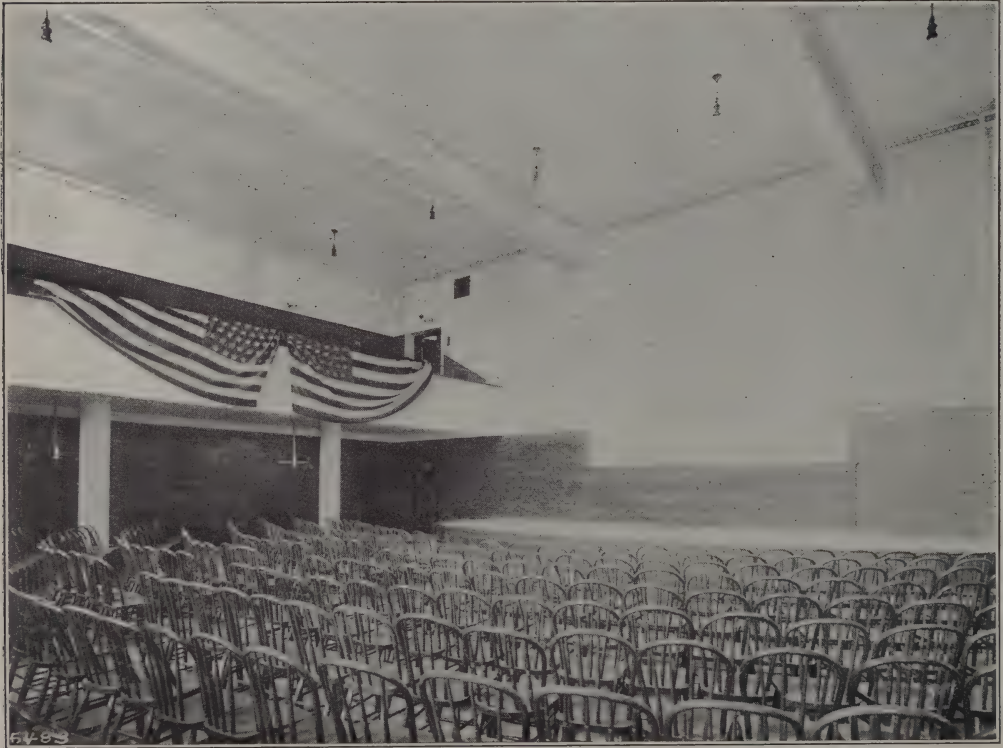


FIG. 19. ASSEMBLY HALL—ROGERS SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.

pears to be only gossip, hearsay and complaints of disgruntled subordinates, supported by anathemas fired at him and the trial committee by the president of the board, who is conducting the prosecution without any assistance, it seems hardly worth while to refer to it *in extenso*. The result will be known before these pages are printed. If what is here presented, being an illustration of only a very small part of the immense work of his office during the last five years,

discouragements which always stand in the way of every conscientious public official. They will also be able to form an opinion as to whether or not these buildings give evidence of extravagance, bearing in mind, at the same time, that all of them have been approved in the plan stage by his financial superiors before their erection, and contracted out and paid for by the same parties with their eyes wide open. As for insubordination, the public does not need to know.

for it is hard to say what constitutes insubordination in the conduct of a public servant who has too much dignity and self-respect to submit to foolish dictation by those who are accidentally, for the time being, higher than himself in authority, but infinitely beneath him in intelligence or gentlemanliness.

NOTE.—Since this article has been in print, Mr. Perkins has been found guilty of the last two of the three charges by a trial committee of four, one dissenting,

the three others being physicians in their private calling. The decision has been approved by the Board of Education, only two members dissenting, and he has been dismissed. The other dissentees comprise every newspaper and periodical of good standing published in Chicago, practically all of the associations of a social, artistic, literary and altruistic character, and hundreds of thousands of public spirited citizens who have been interested in the proceedings.

*Peter B. Wight.*



FIG. 20. FRONT VIEW—ROGERS SCHOOL.

Chicago, Ill.

Dwight H. Perkins, Architect.





FIG. 21. JESSE SPALDING SCHOOL FOR CRIPPLED CHILDREN.

Chicago, Ill.

Dwight H. Perkins, Architect.

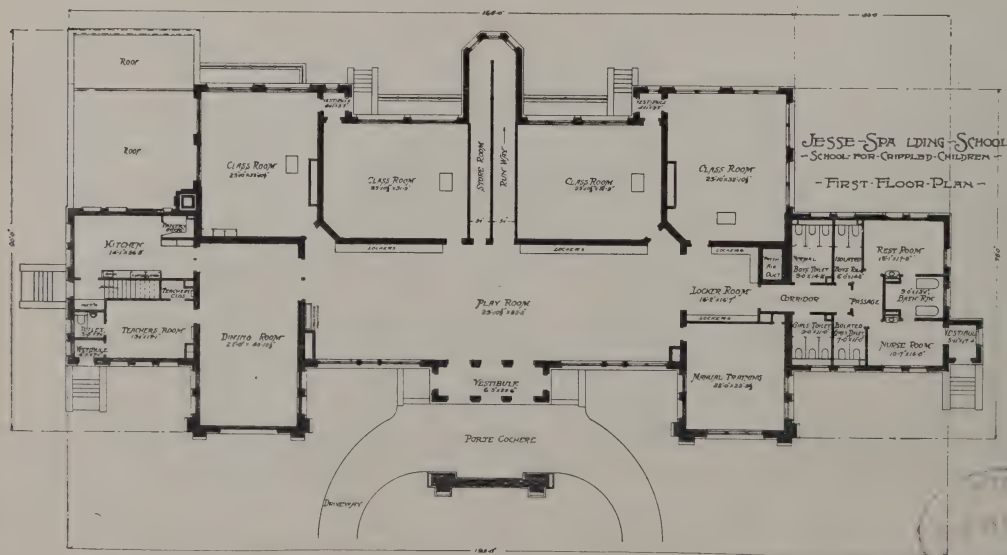


FIG. 22. JESSE SPALDING SCHOOL FOR CRIPPLED CHILDREN.

General Plan.



# “UPLANDS”

HOME OF

J. BORDEN HARRIMAN, Esq.

MT. KISCO, N. Y.

GUY LOWELL  
Landscape Architect

ARCHITECTS { L. HENRY MORGAN  
J. GALEN HOWARD  
D. EVERETT WAID



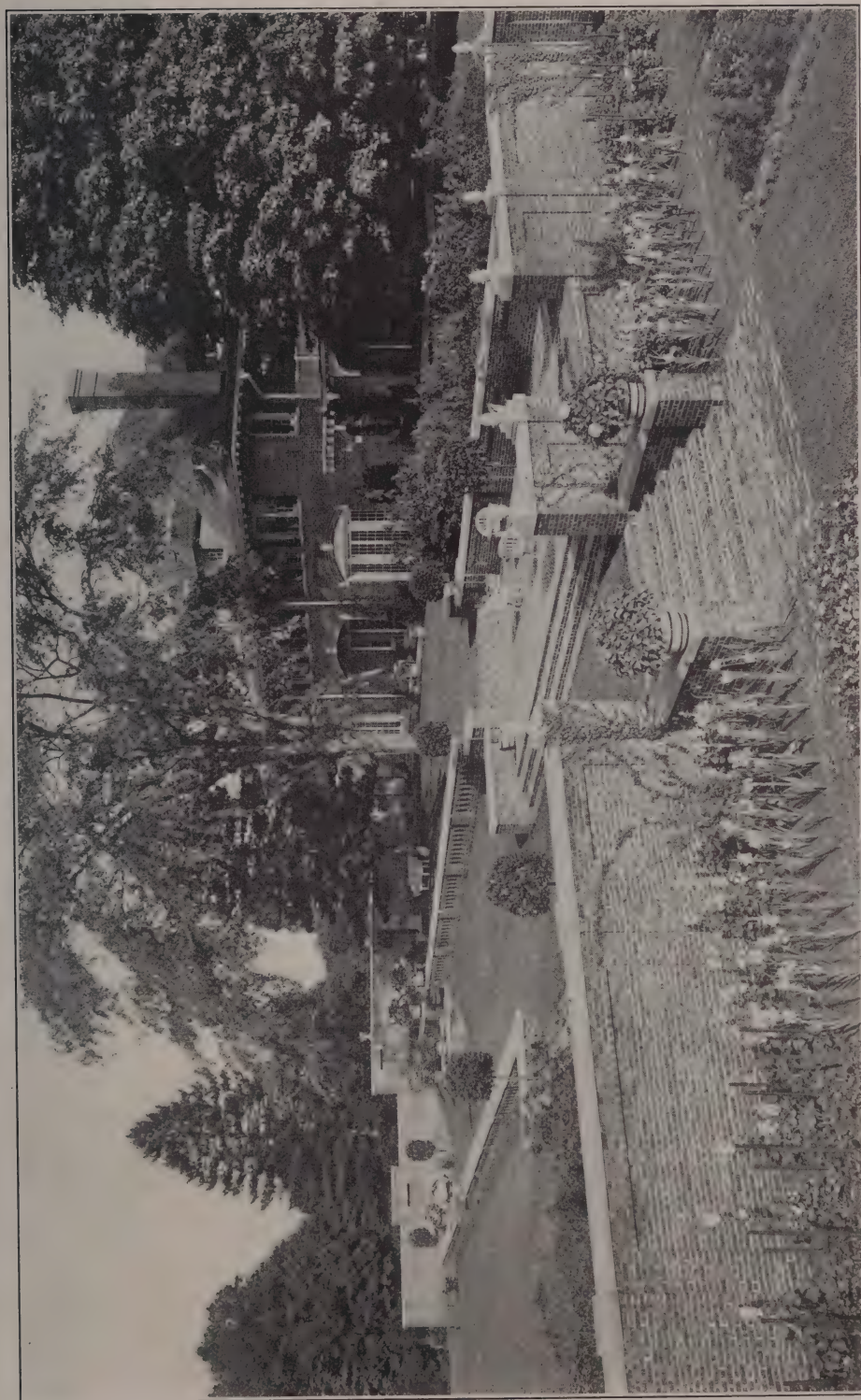




HOUSE OF MR. J. BORDEN HARRIMAN.

Architects: L. Henry Morgan, J. G. Howard, D. E. Waid

Mt. Kisco, N. Y.



TERRACE AND GARDEN—HOUSE OF MR. J. BORDEN HARRIMAN.

Mt. Kisco, N. Y.

Guy Lowell, Landscape Architect.





ENTRANCE HALL—HOUSE OF MR. J. BORDEN HARRIMAN.

Mt. Kisco, N. Y.

Architects: L. Henry Morgan, J. G. Howard, D. E. Waid.

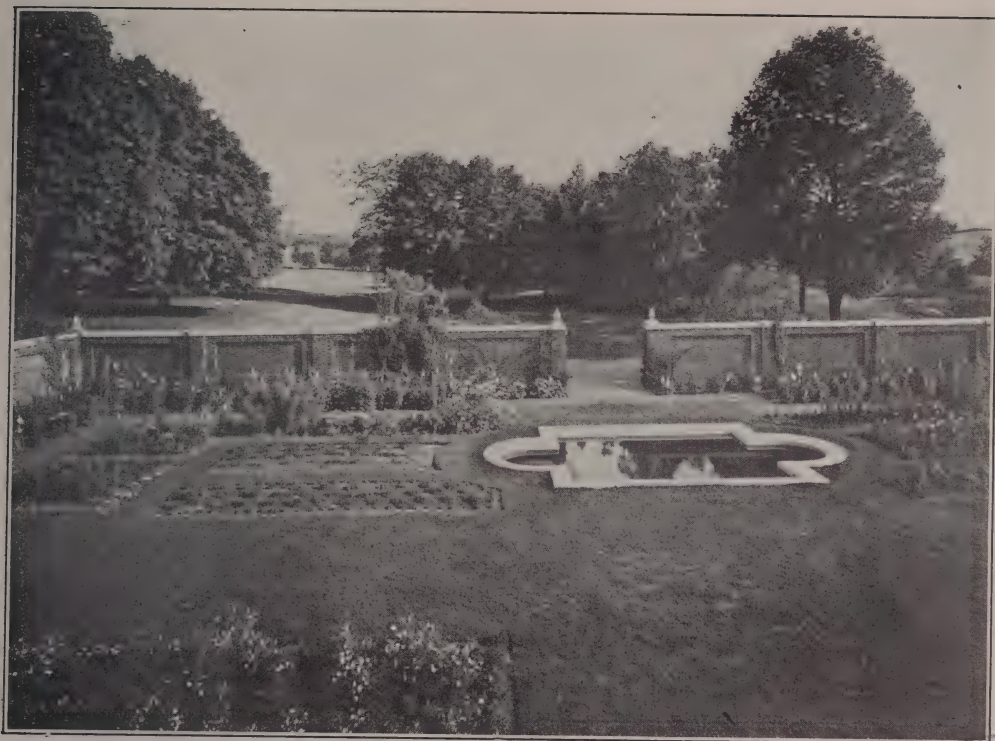
PUBLIC



LIVING ROOM—HOUSE OF MR. J. BORDEN HARRIMAN.

Mt. Kisco, N. Y.

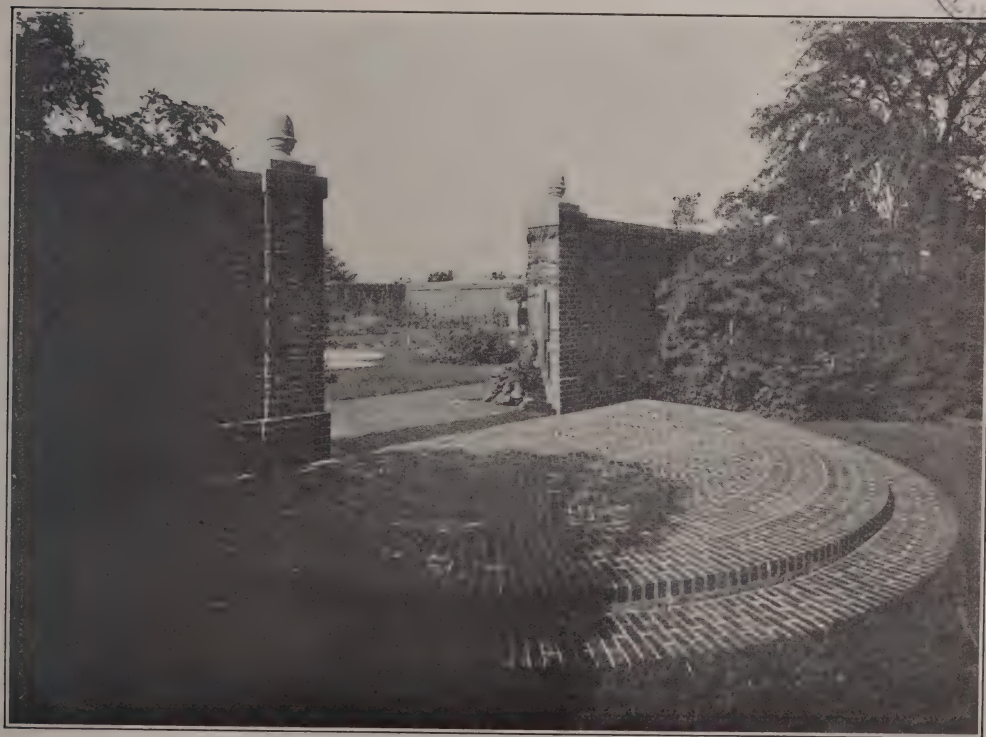
Architects: L. Henry Morgan, J. G. Howard, D. E. Waid.



Mt. Kisco, N. Y.

GARDEN—HOUSE OF MR. J. BORDEN HARRIMAN.

Guy Lowell, Landscape Architect.

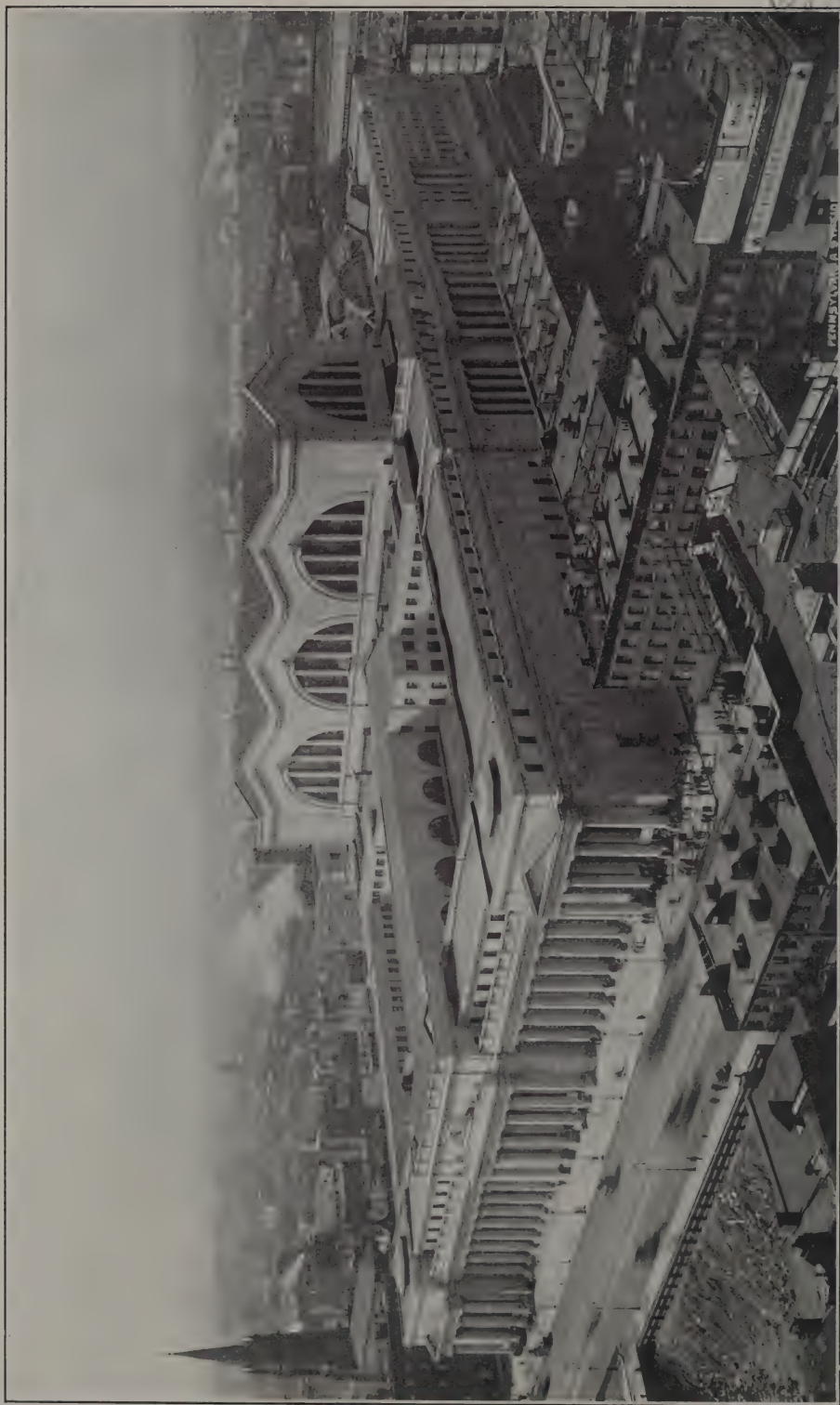


GARDEN ENTRANCE—HOUSE OF MR. J. BORDEN HARRIMAN.

Mt. Kisco, N. Y.

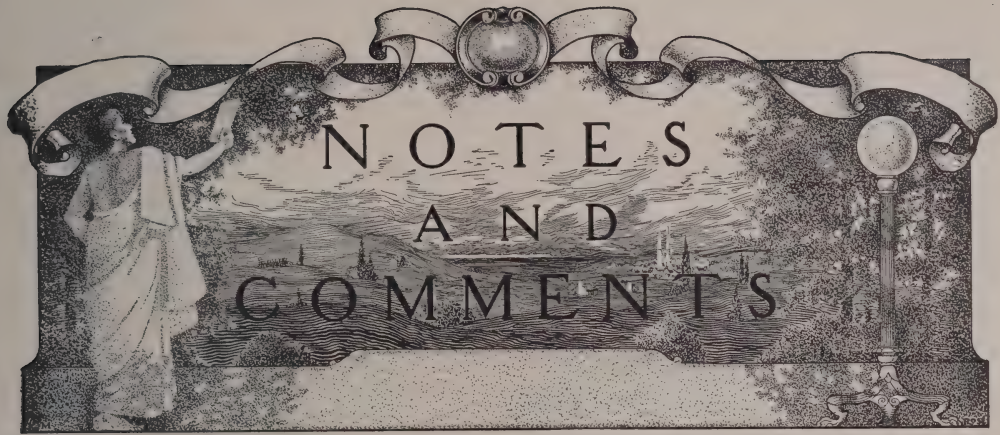
Guy Lowell, Landscape Architect.





THE PENNSYLVANIA RAILROAD STATION,  
7th to 8th Avenue, 31st to 33d Street, N. Y. City.

McKim, Mead & White, Architects.



## The Pennsylvania's New York Station

It were useless and superfluous to advertise the new station of the Pennsylvania road. No project since the Chicago Fair has been more industriously and effectually "boomed." It would sadden the members of the Pennsylvania's Department of Publicity and Promotion to learn that there was any adult within the reach of the "system" who could read or even who could look at pictures and who did not already know that there was such a thing, and that it was such a big thing. Infinitesimal must be the basis for such a regret. It would not be exact to say that this thing was not done in a corner. In fact it was. The excavations and the edifications have been made in a neglected quarter of Manhattan which not one Manhattanite in a thousand has occasion to visit from year's end to year's end. That, in fact, from a civic point of view, is one of the interesting points about the undertaking, that it is a project of reclamation as well as of "réclame." One of our chief civic needs is that of multiplying and scattering "centres." To establish a new centre which shall serve to divert traffic from the old ones and relieve their congestion, which shall create or enhance values in a neglected and derelict neighborhood is a civic benefaction, even though the enterprise was entirely selfish on the part of its promoters. The successful establishment of a new centre pays for itself very speedily, in so great and growing a city as New York, in the "unearned increment" of the value of the surrounding land. The success of this establishment may be already assumed. The terminal and the post office together insure the creation of

what may fairly be called a new city on the shore of the North River.

Doubtless this aspect of the improvement has been or will be dwelt upon sufficiently by the Pennsylvania's Press Bureau. It is only the strictly architectural aspects of the project that invite and indeed compel illustration and comment from an "Architectural Record." Probably no larger and costlier building than the station has been under construction concurrently with it. Certainly no larger. There are other buildings of greater cubical contents contemporaneous with this, notably the Metropolitan Life in New York, and very many superior in altitude have been going on at the same time. In fact it is the lowest big building of recent years, only the New York Public Library, of buildings in the same city, having so little height in proportion to its area. But the area of the station is enormous. The frontage, from Seventh to Eighth Avenue, is almost exactly the same as that of the Capitol of the United States, including the wings. There is nothing in New York anywhere near as long, excepting the front of the Museum of Natural History, which one supposes to be about the same. The Metropolitan Life, indeed, occupies a block front each way. But the block from Madison to Fourth is, of course, only half a "long block," half the distance from Fourth to Fifth Aves., the other half being occupied by Madison Square, whereas the new station occupies the whole space from Seventh Avenue to Eighth. And the other dimension is equally exceptional. The closing of Thirty-second street west of Seventh Avenue gives the shorter fronts the



unequalled length of 430 feet. The area is thus not far from 300,000 square feet, half as much again as that of St. Peter's, nearly three times that of Milan. Doubtless we are dealing with a "big thing." To find an American building of as great area as the new station, we should have to recur to the temporary and occasional architecture of the fairs of Chicago and St. Louis.

The lowness is of course an architectural advantage in the sense and in the degree that it emphasizes the horizontal extent of these walls. Excepting the emergence of the roof of the great concourse at the centre in what is virtually a sort of transept, though it is not carried out to the street-fronts, the enormous spread of the structure has a height of only three moderate stories and a moderate attic. The level line of the cornice, unbroken except by the moderate projection of the portico at the centre of each front, stretches away interminably to an undeniably impressive effect which might, it seems, have been enhanced by a more pronounced and emphatic base-moulding. Everything, indeed, concurred to enable the architects to emphasize this "horizontal extension" which, according to Freeman, is the character of "classic" as vertical extension is of Gothic, and as "rest," or immobility, is of Romanesque. No doubt the classic effect is attained, especially in the most elaborated and "important" front, the Eastern, which contains the main entrance, and carries a colonnade along its whole extent—

As where, from Pluto's garden Palatine  
Mulciber's columns gleam in far piazzan line.

Another adventitious advantage, especially for a strictly classic treatment, the architects had in the comparative blankness of the walls, at least of the most conspicuous walls. An American architect in the days of the old Greek revival incurred some just enough ridicule by saying that modern architecture would not be so difficult if it were not for the windows. In other words, if men would be content to live and do business behind blank walls, their claims would not conflict with those of the buildings which they foolishly imagined to be meant for their accommodation, holding that architecture was made for man, not man for architecture. Of course the retort upon the foolish architect was obvious that if classic architecture did not allow for the admission of necessary light, it was his business to find or make some architecture that did. All the same, the foolish man was right enough from his point of view. In the Greek and Greco-Roman templar architecture, the portico, the colonnade, which is to say the architecture,

was relieved against the absolutely blank wall of the cella, and doubtless it was much more effective with that relief than with any form of opening whatsoever in the intercolumniations. When the Romans undertook "*miscere utile dulci*," to unite the practically necessary with the architecturally agreeable, they used the order which was the entire construction of the temple as a kind of trellis to overlay a construction of arches, so that the Roman building involved a contradiction which was never reconciled until what Freeman calls "the classical or transitional Roman" had ceased for some centuries to be built. Even now, an architect who starts out to make his architecture out of the "orders" is very lucky if he can ignore the openings and produce a building

Where the blank windows blind the wall  
From pedestal to pedestal.

That good luck has befallen the architects of the Pennsylvania station in unusual measure. It results from the lowness, the perspective shows, that the interiors can almost all, or almost all on the conspicuous and "architecturesque" fronts, be lighted from above, or from courts, and that the walls can be treated as mere backgrounds or foils for the colonnade. That is conspicuously the case on the principal or eastern front. And nearly half way down the side, or until you come to the central portico of the entrance, the order, here subdued from columns to pilasters, is relieved against a wall virtually blank, to the great enhancement of the architectural effect. The western front is apparently the "business end" of the structure. It accordingly contains four tiers of practicable windows. The architects have hardly attempted to bestow more abundant comeliness upon these more uncomely parts. They have simply carried through the order, in the form of pilasters, and made the openings mere rectangular holes, not "treated" architecturally at all, but recognized perforce as an ugly necessity. This, you will observe, is precisely the method adopted in the public architecture of Washington, in the Treasury and the Patent Office, by the Greek revivalists of half a century ago. It is hard to see what better could be done, given the primary commitment to strictly classic architecture. It is true that one cannot exactly see a Greek architect resorting to such a confession of impotency. But still less can one see a Greek architect resorting to the hybrid construction of the Imperial Romans. If not what a Greek architect would have done, it is exactly what Isaiah Rogers and Thomas U. Walter and Robert Mills and Ammi B.

Young would have done, if they had had all this money to spend and all these dimensions over which to spread themselves. It is what they would have done for it, it is what they did. In fact the exterior of the Pennsylvania station, with one notable exception, is what would have been done in this country seventy years ago. It has no trace of the later inculcations of the Beaux Arts. There is no more taint of "modernism" about it than about a Papal allocation. This must not be taken as dispraise of the architecture. Quite the contrary. Given Greek architecture, the absence of anything "smart" or modish, or modern, is an advantage as an adherence to the type that has "pleased many and pleased long."

Doubtless the structure has the defects of its qualities, and also of its conditions. The lowness, the massiveness, the solidity and the blankness make for gloom as well as for dignity. The poet may be right in saying that

Stone walls do not a prison make.

But these stone walls do. A stranger set down before this Seventh Avenue front, out of sight of the emerging mass at the centre, and told to guess what it was all about, would be apt to guess it a good substantial jail, a place of detention and punishment of which the inmates were not intended to have a good time. The simplicity of arrangement and detail furthers this impression. The plain unfluted Roman Doric of the order, of which this is an impressive example, is the most "serious" of the orders, as serious as the Greek Doric in the modern, not the Greek use, in which it is not relieved and enlivened by sculpture or by color, and more so than the sprightly Corinthian, or even than the Ionic, of which the voluted capital has an interest in itself to which the Roman derivative Doric does not pretend. The carving of the porticoes, excellent as it is in adjustment in scale and in execution, by no means suffices to relieve the sadness of the interminable fronts. The architecture raises one or two questions which it does not answer. Why should the central intercolumniations of the porticoes be wider than the others? And particularly why should the otherwise unbroken horizontality of the design be subjected to the single exception of the projected pediments of the terminal pavilions on the Seventh Avenue front, when the pediment does not reappear at the centre, nor on the sides of the same pavilions, nor anywhere else throughout the vast structure? It has undoubtedly an anomalous air. If it be meant to denote and signalize the corridor to

which the portals under the pediment give access, it is manifest that this purpose would be equally secured by a reduced reproduction of the central portico, in the same plane with it, and like it crowned with a pedestal instead of a pediment, relieved against the flat attic. If it be an attempt to enliven the architecture, and to relieve it of monotony, the attempt has plainly miscarried. And in fact, the monotony of the building, the interminable sequence of "magnitude, uniformity and succession" is not only connected with its artistic quality, but is its artistic quality. It seems a mistake to have disturbed it, most of all to have disturbed it in one solitary instance. For the impressiveness of the building is very great. Whatever abatements and qualifications we may be moved to make, it is securely one of our public possessions, and liberal owners and sensitive and skilful designers are entitled to the public gratitude for so great and grave an example of classic architecture.

Much of the interior work is of the same grave and simple character as the exterior, and here we may perhaps expect that, in the fulness of time, the gravity and simplicity will be relieved, without being disturbed, by mural decoration. The tympana in the loggia of the entrance seem to have been reserved expressly for such an enrichment. One may walk for long distances in the interior, as he may inspect the entire exterior, without once being reminded that "we live in times unknown to the ancients." The most emphatic recognition of that fact is in the treatment of the great hall, or "concourse," both inside and out. "Modernism" and Gallicism are unmistakably indicated from the outside by the emerging mass of the transverse roof, with the three heavily mullioned arches, each decorated with a protruding keystone, and covered with its own low gable. Within, an enormous and lofty shed of iron and glass is an architectural feature for which no classic precedent exists, since no Greek architect or Roman engineer ever had occasion to treat such a construction. Originality, or at least modernism, is here enforced. The architectural treatment is constructional and straightforward, with as much, perhaps, as the case admits, of the gravity and simplicity of the abundantly precedented design of the exterior, but with necessarily much less of the impressiveness of massiveness, and of the monotony which the massiveness here entails. But of the design, classic or modern, in masonry or metal, one has to own that its dignity everywhere escapes frivolity. In the language of Mr. Edmund Sparkler, there is no nonsense about it.



## PLANNING PARK BRIDGES

It is much to be regretted that the architectural competition lately conducted by the Minneapolis Park Board, for bridges of artistic design to be constructed in half a dozen designated park locations, did not prove more successful. Three prizes were offered, of \$800, \$500, and \$200 respectively, and something over a score of far-scattered architects competed. The first prize was awarded to Messrs. H. Lincoln Rogers and Guy Vroman of New York, the second to Messrs. William Pierce Cowles, C. E., and Cecil Bayless, architect, of Minneapolis. No third prize was awarded, but the design of Frederick Bigelow of Newark, N. J., was purchased. The general average of the designs is described as not as good as anticipated, and while the estimates that accompanied them were within the designated limits, the actual bids for construction, when these were called for, exceeded the estimates by 50 to 100 per cent. Nor was this the sum of the disappointments. The specifications called for separate bids on granite and Bedford stone, and the bids for the former proving in all cases double those for the latter put the granite absolutely out of reach of the appropriation. And then a considerable number of architects, engineers and contractors came forward with the warning that in the Minneapolis climate Bedford stone of even the best quality would quickly disintegrate if used in bridges over water. Other experts opposed this contention, but at least a discouraging doubt was cast over the matter. The suggestion was made that concrete be used. On this point Theodore Wirth, the superintendent of the parks, came out with some very sensible ideas. "If concrete bridges are to be built," said he, "then the designs should be of the simplest possible character. The ornamentation which may be attractive and artistic in stonework is offensive, and a deceptive imitation only, if moulded in concrete. Concrete bridges should show graceful and pleasing lines, should be true in character in their construction, and should have modesty and simplicity of design their dominating feature." Many concrete bridges have been built in the parks and private estates of this country following out Mr. Wirth's ideas. Some specially graceful and simple spans have been constructed, and concrete again shows its adaptability to this kind of structure. We sincerely trust that where the cost makes the finer stones prohibitive this material may make the bridges possible. If the competition had

proved the general and practical success which was desired, other park commissions would have been tempted to follow the example.

## AVIATION AND CITY PLANNING

The influence of aeronautics on City Building was the unique subject of a paper read at the thirty-eighth annual meeting of Philadelphia's Fairmount Park Art association, and now published in the current annual report. The address was delivered by George Oakley Totten, Jr., A. A. I. A., "That aeronautics will give to the aerial traveler a perfect and comprehensive view of the entire city must prove," he claimed, "an enormous stimulus to all plans for improvement in city building. The perfection of these plans will now be seen more fully than their originators could have hoped." "Think what it will be," he exclaimed at another point in the address, "to see the famous cities of Europe as the aviator will view them, looking at them from the sky and not from the streets; to pass above Rome and to have below us the wonderful picture of its historic palaces, its domes and temples, and the course of the Tiber crossed with its arched bridges; to see Taormino, with its ruins of columns and arches, the great stones of its theatre scattered on the ground; to visit in this way Venice and Florence and Naples; to see how the great cathedral of Strasburg lifts itself in solitary majesty above the rest of the city; to see perfectly the whole plan of the Tuileries Gardens and the Trocadero . . . to be above the gardens of Charles V. at Seville, and above the Alhambra." Aeronautics, he felt sure, would give rise to a new series of architectural problems. He noted that houses for dirigible balloons have already been built in practically all civilized countries, and said, "there is no reason why these hangars should not be architectural and beautiful in treatment. The simple conditions for such buildings are artistic." Hangar, it should possibly be explained for those who want to practice designing them, is our latest imported word. It is the balloon barn, or the garage of the aeroplane. The speaker named as Philadelphia structures that had roofs suitable to serve as landing places for aeroplanes the North American, Wanamaker and Land Title buildings. He added: "The Bellevue-Stratford has a beautiful roof garden and undoubtedly in the future will have a landing platform for the use of aerial travelers. Aeronautics," he continued, "will make necessary some system of landmarks

and special charts, distinctive marks by day and lights by night, with corresponding marks on the aviator's charts. It has been suggested that the street lights in the different cities might vary in color, and the name of the city be marked in some way upon a roof or platform. . . . It has been suggested that floating aerial hotels may be anchored over our cities during the heated nights, and that aerial theatres may float in the cool of the upper currents of the air."

## PRESTIGE

It has been the writer's privilege to hear much discussion among architects about the necessity of the strictest observance of the code of ethics of the Institute to promote the

prestige of the profession. Many have been the complaints that its functions are being usurped by various building trades which need to be shown their places. The writer admits the wisdom of a high standard of professional ethics and joins the architects in deploring the usurpation of their functions but, would like to ask what they are doing to command that prestige which they regard as rightfully theirs.

"*Tempora mutantur.*" Never was this trite saying truer than in its application to the practice of architecture in these days so fruitful of universal progress. The architect of the twentieth century cannot expect to be taken seriously if he persists in regarding himself and his mission through the eyes of a glorious past. There is a glorious present and a still more glorious future for him if he will but realize the conditions of the times and accommodate himself thereto. The ages of intellectual idealism, of conquest, strife and war are gone and the present is an epoch of universal peace with its attendant commercial prosperity. In that prosperity there is room for the architect but he must win his position by clean-cut business methods if he is to be respected and rewarded as he would wish. Has he yet made a consistent fight for his position? Surely not, else, why should he be so often doubted and misunderstood? Does the layman to-day appreciate the aims of the architect and does the architect, as a solid organization, go out of his way to make himself intelligible. In the first place, the architect does not possess a solid organization. True, there are many architectural associations; but how successful are they in promoting the interests of architects at large in the business community? Has the architectural profession in this country to-day a head-

quarters in the center of business activity where vital and up-to-date information is to be had? If there is anything of which it stands in urgent need it is certainly such a headquarters conducted on the most rigid business principles by the most competent of managements. The architects need a campaign headquarters or several of them and they need them now. There should be at disposal the best library of professional and commercial literature obtainable and ever supplemented by the thousand and one technical matters which constantly make their appearance. Then, having such an organization it should be kept at work promoting the interests of the profession, by the most approved methods of publicity.

Only then will the public take architecture seriously, because it will be convinced that the architect is a live business man of to-day.

## PROPOSED HAWTHORNE MEMORIAL

At last, nearly half a century after his death, there is an earnest and persistent movement on foot in Salem, Mass., to erect a worthy memorial to Nathaniel Hawthorne, the city's most distinguished son. The movement seems to have been started by the Salem Civic League, which is a considerable power in the community. For nearly a year a committee of the organization has been quietly working on the matter, and a design has been made by Bela L. Pratt and Clipston R. Sturgis, working in collaboration. The design is of exceptional interest. The architectural part represents one of the old Salem doorways. One is supposed to be looking through this into an old fashioned garden, a portion of the wall of which forms a background for the figure of a Puritan maiden. Beyond the wall, in the shadow made by the foliage of the overhanging trees, are the wraith-like head and shoulders of a figure which might be called the Spirit of Romance. It is proposed to meet the considerable cost of the memorial by public subscription—which will not be confined to Salem.

## ARCHITECT'S DREAM OF ATLANTA

Haralson Bleckley, a well known architect in Atlanta, Georgia, has set that city agog by a plan to bridge the railroads, where they pass through the heart of Atlanta, placing over them a series of boulevards and gardens. The distance would be about a quarter of a mile, and the width from 100 to 300 feet.



The whole improvement, while spanning the railroads and roofing over "the sewer of smoke"—much as Park avenue covers the New York Central tracks in New York—would be on a level with Forsyth street, Broad and Whitehall, just as the viaduct bridges now are. It would also be flush against the buildings all the way, so that they would appear to be built upon it. The plans contemplate the erection, at the extreme western end, just beyond Forsyth street, of a French renaissance structure, of no great height, that should contain gymnasiums, baths, etc. This would be a municipal provision. From Forsyth to Pryor streets would stretch the park, with lawns, flowers, and fountains, and on either side driveways and sidewalks. Over the present site of the Union Station, Pryor street to Central avenue, the plan contemplates the erection of a magnificent skyscraping structure, that should be a Union Station, city hall and office building all in one. Beyond this great building, which would represent the center of Atlanta, the park is to be continued to Washington street. Various organizations and citizens have endorsed the project and the Atlanta Journal has devoted many pages to it. A double leaved editorial, two columns wide, refers to it, in the caption, as "a brilliant and feasible plan." At least, it is interesting evidence that all the great civic dreams are not in the North.

## REPLANNING

### A FAMOUS SQUARE

nity to bring the bridge into direct relation with the square. By moving it only thirty or forty yards down stream, bridge traffic could be conducted directly upon the square, and the congestion relieved in the space between the castle, the court church and the building of the Saxon Diet. But opposed to this change was the fear that with its radical alteration of a famous old city picture there would pass out of the city's life a picturesque quality and a certain fitness in entering the Altstadt through the King George gateway. So the new bridge is to follow the line of the old one, and the modernizers are compelled to be content with a rearrangement of the square as a problem by itself. Says "The American City": "Two architectural contests brought no satisfac-

"The American City" gives a brief but interesting account of the plan for remodelling the Theaterplatz at Dresden. The rebuilding of the Augustus Bridge has given the opportu-

tory results, and after a large number of architects had volunteered plans, City Building Inspector Erlwein came forward with one of his own, which was approved by an art commission composed of architects of the highest rank." When objections to the plan were brought before the city councillors, a public announcement was issued, signed by eleven distinguished German artists, expressing approval of the Erlwein plan and recommending its adoption. The plan involves a distribution of terraces, steps and clumps of trees along the shore line, so placed as to heighten the impressiveness of church, square and bridge. The part of the shore which slopes from the head of the bridge toward the Hotel Bellevue is to be bordered by terrace-like parapets, and a broad flight of steps will have at once practical utility, in giving access to the river, and aesthetic value in uniting river and square in a single picture. Helbig's restaurant, the so-called "Italian village," is to be replaced by another building, between which and the stairway will be a terrace-garden. The new building is made lower than the present structure, so emphasizing the dignity of the palace, the court church, the Zwinger, the museum and opera house, which inevitably are measured by it. Dr. Robert Bruck of Dresden, writing in "Der Städtebau," praises the design very highly. "Restraint," says he, "shows the hand of the master. Entering the square from the bridge, one finds at each new step a charming change of aspect, first one and then another of the magnificent new buildings coming fully into view amidst its beautiful surroundings." And the great charm and virtue of the plan, he says, is that for all its aesthetic merit, it satisfies the demands and conditions of the present time—of a time when the square has ceased to be a pleasure garden or merely an open plaza in front of the opera house, and has become a traffic center.

An additional heading in the Index of "Sweets" should read, "Hinges, Invisible." Under this will come the name, Soss Mfg. Co., pages 598-599. Users of Sweets will please make note of this on the margin of page XXXVII. in the index.

In publishing the work of N. Le Brun and Sons in the May issue of The Architectural Record credit was given that firm for the "Extension of the Fire Dept. Headquarters on 68th St., New York City." Mr. Le Brun wishes to correct this as he was not responsible for the design of the extension.

# Stop heating nightmares



Your dreams about heating may be made blissful or dreadful—as you choose.

It is not the nightmare alone that comes from the work and worries of old-fashioned heating—you find your heating nightmares are realities in the morning. They are real nuisances which spoil your peace of mind by day and wreck your sleep by night. But there's a remedy.

## AMERICAN & IDEAL RADIATORS & BOILERS

afford the only means of heating which bring repose and health. These outfits for Hot-Water and Low-Pressure Steam heating produce nothing but cleanly, soft, even temperature—suited to a baby or an athlete. They should be installed in every home. They save their cost by cutting down the coal bills. They do away with ash-dust, soot, and hard work. Their cleanliness saves much wear on household furnishings. They are so built in small sections that they can be easily put in any house—old or new—farm or city.

Any person, no matter how inexperienced, may easily operate an IDEAL Boiler. It requires less care than a parlor stove.



A No. 3-22 IDEAL Boiler and 600 ft. of 38-in. AMERICAN Radiators, costing the owner \$255, were used to Hot-Water this heat cottage.



A No. 22 IDEAL Boiler and 240 ft. of 38-in. AMERICAN Radiators, costing the owner \$115, were used to Hot-Water heat this cottage.

At these prices the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which installation is extra and varies according to climatic and other conditions.

Our book, "Best Ways to Run the Boiler," furnished with each shipment, tells just how to get the best results in mild, cold, or severe weather, and from any kind of fuel. It presents a few simple rules, readily understood, and if followed gives absolute control of the fire, and makes every ounce of fuel yield its full heat.

Our interest in the heating outfit does not cease with its sale, and should any feature in the care or operation of the Boiler not be understood, we most cordially invite correspondence.

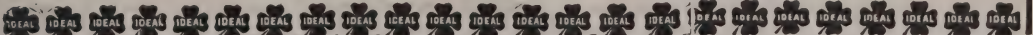
Write us to-day for our new and valuable catalog—sent free.



Branches in all large cities

## AMERICAN RADIATOR COMPANY

Write to Dept. 15  
CHICAGO







DETAIL PHOTO OF LIBRARY MANTEL IN RESIDENCE OF MR. JOHN DUPEE, OCONOMOWOC, WIS.  
C. A. Eschweiler, Architect, Milwaukee, Wis.

Directly opposite the mantel is the main entrance to the library, which on entering the room makes the mantel the central feature in a room which is 30 x 50 feet, and which is trimmed in Circassian Walnut of selected figure, finished in wax

**SCHICK-JOHNSON COMPANY**

1737 to 1745 North Paulina Street, Chicago, Ill.

Sales Office, 310-312 Railway Exchange Building

Forty-one of the buildings designed by Messrs. Carrere & Hastings, mentioned in this magazine, are fitted with Yale & Towne Hardware.

---

THE materials and workmanship in Yale & Towne Builders' Hardware are in each case of the highest possible character and of quality consistent with the work and its surroundings.

We have patterns for many pieces in each design in almost every school of ornament, sometimes several designs in the same school.

Special designs made from architects' sketches.

Hardware made from architects' own drawings with the utmost fidelity.

---

## The Yale & Towne Mfg. Co.

EXHIBIT ROOMS

251 Fifth Avenue, New York

GENERAL OFFICES

9 Murray Street, New York

LOCAL OFFICES

CHICAGO

BOSTON

PHILADELPHIA

SAN FRANCISCO



# Architects Standard Bronze Company

*Number One Madison Avenue (The Arcade), New York*



## *Exclusive Designers and Makers of Lighting Fixtures*

---

*We manufacture lighting fixtures which cannot be duplicated in solid metal anywhere in the world. The very low cost of this magnificent product is the greatest incentive to its use.*

*No under cut too difficult to cast by  
our process*

*Our success is unparalleled in the  
Metalizing of Architectural Compo-  
Work, Mantels, Capitals,  
Consoles and Statuary*

---

*Period and Classic Drawings submitted  
for Electroliers, Portables, Stand-  
ards and Candelabra  
Bank Fixtures and Railings*

*We metalize all kinds of non-conduct-  
ive surfaces, and produce all colors and  
finishes on our metals.*

*Finer results than can be obtained in  
carved wood or solid metal, at great  
saving of cost.*

### *Reference*

*Cafe de l'Opera electroliers, bronzes and  
polished brass figures were furnished by us  
Other references by request*

*We Invite Correspondence*





WROUGHT IRON ENTRANCE GATES. AMERICAN TRUST AND SAVINGS BANK, CHICAGO  
JARVIS HUNT, ARCHITECT

## THE WINSLOW BROS. COMPANY

Ornamental Iron and Bronze

New York

Chicago

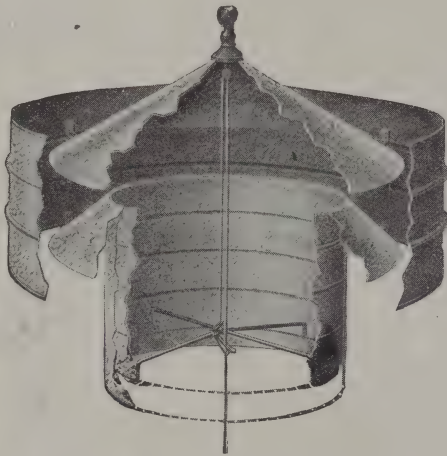
San Francisco

Agencies in all principal cities of United States



# 23—Count Them—23

This isn't slang, but an actual record of the number of orders for Burt Ventilators that the United States Government has placed with us. They have come back twenty-three times for Burt Ventilators, because the ones they got before were so perfectly satisfactory. That's a good record and shows that



**Metal Top Ventilator.**  
Notice Sliding Sleeve Damper. (Patented.)

tops, if desired, and provided with patented adjustable sliding sleeve dampers, storm and dustproof at all times, and never shut out the light with any adjustment of damper.

*Write for new 96-page catalog showing fine illustrations of mills, factories, shops, foundries and residences where Burt Ventilators are in successful use.*

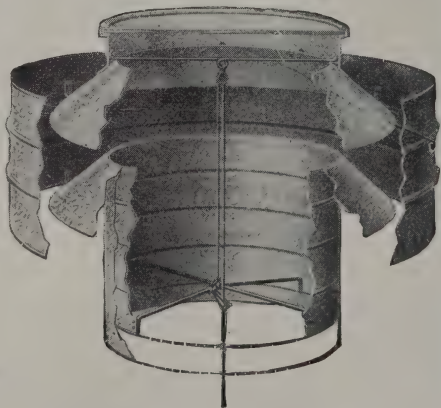
## The Burt Mfg. Co.

**525 MAIN STREET  
AKRON, OHIO**

**GEORGE W. REED & CO., Montreal,**  
Sole Manufacturers of "Burt" Ventilators for Canada.

## Burt Combination Skylight Ventilators

are what we say they are, the best, the strongest, the most efficient ventilator on the market today. Burt Ventilators are made of the best material and workmanship obtainable, furnished with metal or glass



*Notice Sliding Sleeve Damper (patented). Furnished with flat wired glass, up to and including the 72-inch size. Metal Tops furnished if desired.*



CAST BRONZE DOORS, MAIN ENTRANCE OF CARNEGIE INSTITUTION

(ADMINISTRATION BUILDING)

S. E. Corner 16th and P Streets, Washington, D. C.

CARRERE AND HASTINGS, ARCHITECTS

Modeled, cast and erected by

**Jno. Williams, Inc.**

**Ornamental Bronze and Iron Work**

Office, Foundry and Shops  
Borough of Manhattan, New York





BRONZE ENTRANCE DOORS, RESIDENCE OF MR. HENRY M. FLAGLER, PALM BEACH, FLORIDA  
Carrere & Hastings, Architects

MADE BY

WM. H. JACKSON COMPANY

29 East 17th Street, New York City  
163 Michigan Avenue, Chicago

ARTISANS IN ALL METALS



MAIN DRIVEWAY GATES AND LANTERNS, RESIDENCE OF MR. HENRY M. FLAGLER  
PALM BEACH, FLORIDA

Carrere & Hastings, Architects

MADE BY

WM. H. JACKSON COMPANY

29 East 17th Street, New York City  
163 Michigan Avenue, Chicago

ARTISANS IN ALL METALS





# R. GUASTAVINO CO.

New York City

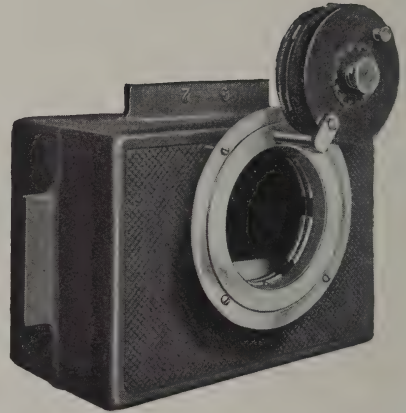
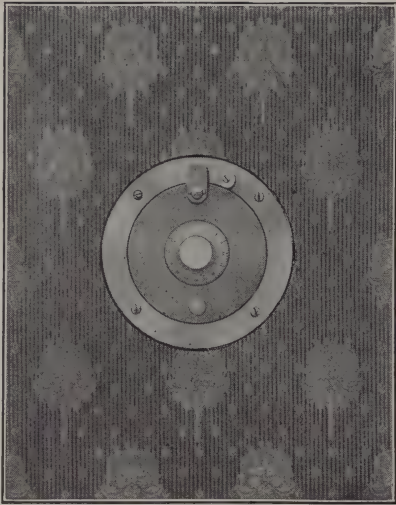
Boston, Mass.



INTERIOR AND EXTERIOR VIEWS OF CROSSING DOME, CATHEDRAL OF ST. JOHN THE DIVINE  
MESSRS. HEINS & LA FARGE, ARCHITECTS

**This dome, 135 feet in diameter at its widest span, was erected without the use of interior scaffold or falsework, the construction being entirely self-supporting—a constructional feat never before accomplished in large masonry domes of this type.**





## WALL SAFES

FOR CITY AND COUNTRY RESIDENCES AND APARTMENTS

WITH OR WITHOUT BURGLAR ALARMS

PRODUCT OF THE

**HERRING-HALL-MARVIN SAFE COMPANY**

New York

Boston

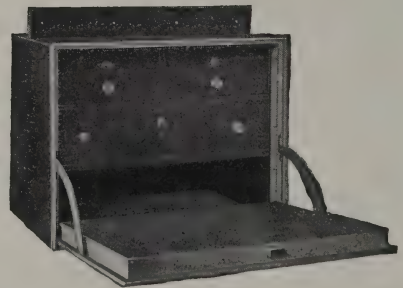
Philadelphia

Chicago

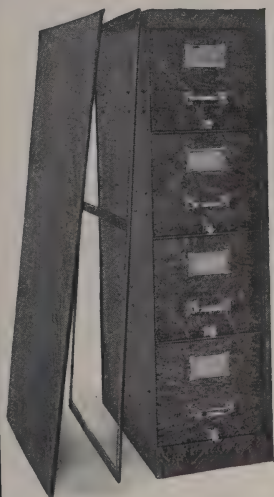
St. Louis

San Francisco

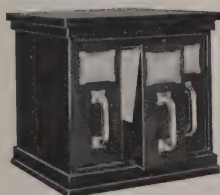
Hamilton, Ohio



## The Aristocracy of Metal Furniture and Filing Devices



HAMILTON, OHIO, U. S. A.



**HERRING-HALL-MARVIN SAFE CO., Selling Agents**

New York

Boston

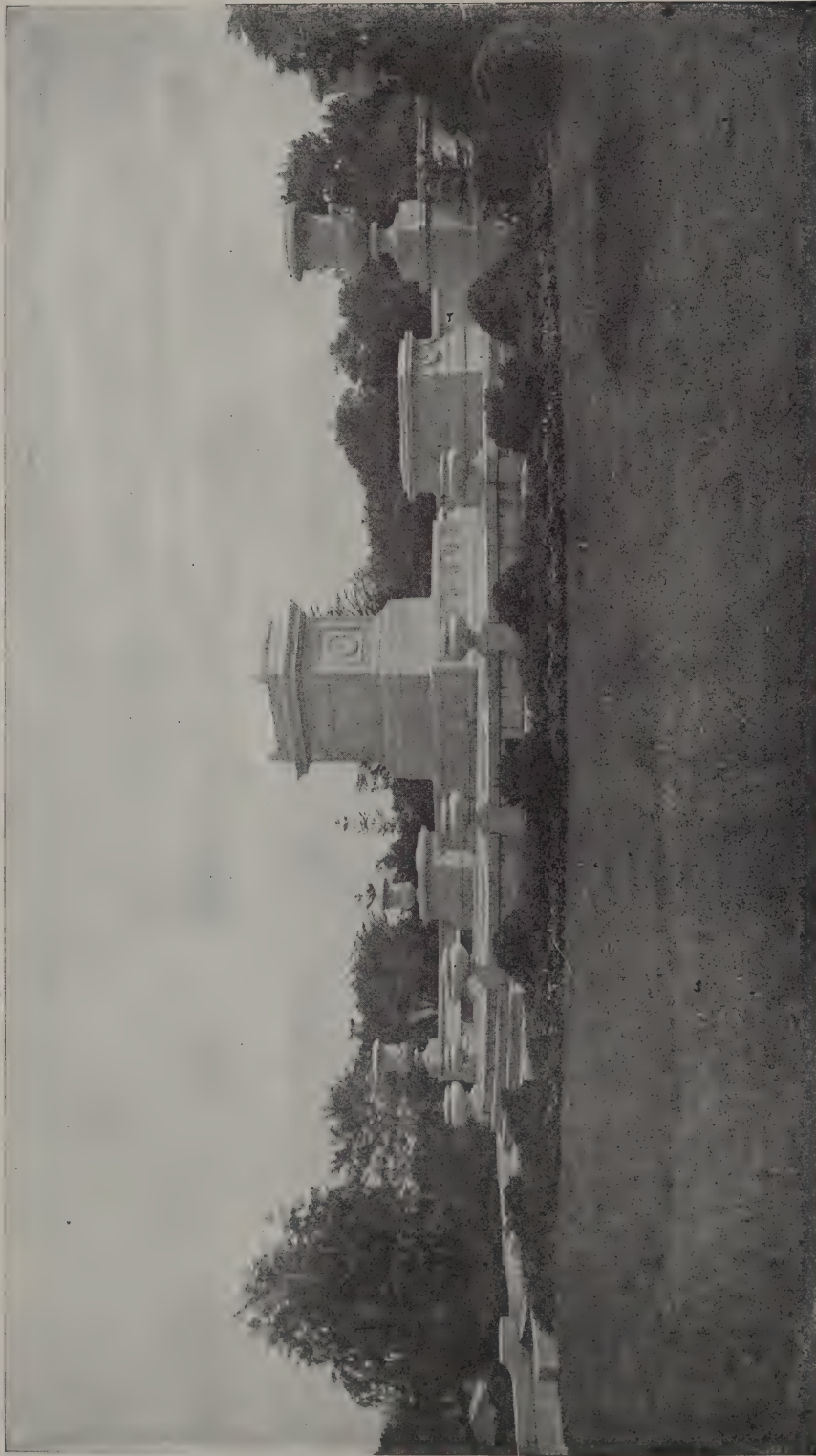
Philadelphia

Chicago

St. Louis

San Francisco





Carrere & Hastings, Architects

BORDEN TOMB, WOODLAWN CEMETERY

Executed by Batterson & Eisele

**BATTERSON & EISELE**

IMPORTERS  
AND  
WORKERS OF

**MARBLE, ONYX & GRANITE**

OFFICE, TIMES BUILDING, NEW YORK

WORKS, EDGEWATER, N. J.

# STROMBERG - CARLSON

## INTERCOMMUNICATING TELEPHONES

### AUTOMATIC KEY TYPE

The tangible evidence that "Stromberg-Carlson" equipments are preferred by discriminating architects and house owners are our many recent orders—each an unbiased tribute to recognized superiority in all things that make "Stromberg-Carlson" telephones the best choice.

*Rochester Residence*  
*E. E. Boynton,*  
*Esq.*

*Frank L. Wright,*  
*Architect,*  
*Oak Park,*  
*Ill.*

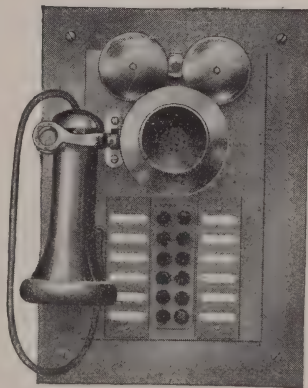


*Three*  
*Flush Type*  
*Wall Telephones*

*Non-Flush*  
*Desk*  
*and Wall Types*

CODE No. 956

¶ This flush type wall instrument has a capacity of 12 stations, each push button selecting and ringing the other station desired. Equipped with standard talking circuit apparatus and furnished in any metal or wood imitation finish desired. Station designators removed without difficulty.



¶ No accessory apparatus is necessary with this telephone—compactness and accessibility are notable features. All the interior apparatus except No. 160 Key bank mounts on detachable swinging front. Removable metal junction box contains terminal strip for cables. The most dependable apparatus made.

*Let us send Booklet No. 201, and tell you more.*

There are over 1,300,000 "Stromberg-Carlson" Independent Telephones in use today.

Telephones  
for Any Kind  
of Service

**STROMBERG-CARLSON TEL MFG. CO**  
ROCHESTER, NEW YORK, U.S.A.  
CHICAGO, ILL. KANSAS CITY, MO.

Switchboards  
for Any Size  
System.





GOLDWIN SMITH HALL, CORNELL UNIVERSITY  
CARRÈRE & HASTINGS, ARCHITECTS

ERECTED BY

**John H. Schaefer, Jr., & Co.**  
**Building Construction**

**5 West Thirty-first Street**  
**New York**

ALSO THE FOLLOWING CARRÈRE & HASTINGS BUILDINGS

MURRY GUGGENHEIM, ELBERON, N. J.	GENL. CONSTR. AND SPECIAL INTERIOR
CHAS. F. HOFFMAN, NEW YORK	SPECIAL INTERIOR
JOHN M. CARRERE, WHITE PLAINS, N. Y.	GENL. CONSTR. AND SPECIAL INTERIOR
ELY SCHOOL, GREENWICH, CONN.	" " " " "
MRS. RICHARD GAMBRILL, NEW YORK	SPECIAL INTERIOR
DANIEL GUGGENHEIM, ELBERON, N. J.	GENL. CONSTR. AND SPECIAL INTERIOR
ROCKEFELLER HALL, CORNELL UNIVERSITY	" "
FIRST NATIONAL BANK, PATERSON, N. J.	SPECIAL INTERIOR
CARNEGIE LIBRARY NO. 5, NEW YORK	GENERAL CONSTRUCTION

THE RECORD AND GUIDE CO., 11 East 24th Street, N. Y.

## *An Index to the Advertisements*



* Edwards Mfg. Co.....	27
* Erkins Co.....	96
* Estey Wire Mfg. Co.....	100
Eureka Fire Hose Mfg. Co..	70
* Fischer & Jirouch.....	31
Fiske & Co.....	73
* Flour City Ornamental Iron Works .....	69
Foster Electr. Co., M. B.....	115
* Fox & Co., M. Ewing.....	62
Gardiner & Son.....	116
* Garry Iron & Steel Co.....	120
Gensch Co., H.....	113
Glauber Brass Mfg. Co.....	142
* Glidden Varnish Co.....	62, 75
* Globe-Wernicke Co.....	69
* Gorham Co.....	35
Gorton & Lidgerwood Co.....	126
* Graf Mfg. Co.....	31
* Grauer & Co., A.....	117
* Guastavino Co., R.....	10, 11
* Gulf Red Cedar Co.....	52
* Hahl Automatic Clock Co.....	68
* Hardtmuth, L. & C.....	110, 126, 136
Harrison Eng. Co.....	87
* Hart Mfg. Co.....	76
* Hecla Iron Works.....	68
Herring-Hall-Marvin Safe Co.,	12, 13
* Hess Warming & Ventilating Co.....	96
Higgins & Co., Chas. M.....	74
* Hill-Canton Dryer Co.....	Insert
* Himmelberger-Harrison Lumber Co.....	90, 91
Hosford Co., L. D.....	116
* Howard Clock Co.....	34
Howard & Morse.....	86
Howes, Benj. A.....	132
* Humphrey Co.....	118
Hussey & Co.....	110
* Ideal Mfg. Co.....	78
Illinois Central R. R.....	114
Illinois Heater Mfg. Co.....	67
* Imperial Brass Mfg. Co.....	147
International Press Clipping Bureau .....	74
Jackson & Co., Edwin A.....	24
* Jackson Co., W. H.....	8, 9
Jeffery & Co.....	150
Jenkins Bros.....	142
* Johnson Co., E. J.....	27
Johnson & Sherwin.....	70
Karpen, S. & Bro.....	98
* Keasbey & Mattison Co.....	51
* Keller Mfg. Co.....	2
* Kelsey Heating Co.....	38
* Kennedy, David E., Inc. 4th Cover	
* Kewanee Boiler Co.....	138
* Kewanee Water Supply Co....	56
* Lamb-Fish Lumber Co.....	90, 91
* Lasar-Letzig Mfg. Co.....	34
Lawrence Cement Co.....	135
Lehigh Portland Cement Co...Co.	134
* Lord & Taylor.....	37
* Luethmann Hardwood Lumber Co., Chas. F.....	90, 91
Luffkin Rule Co.....	126
* Lynn-Superior Co.....	110
* McCray Refrigerator Co.....	93
* McCrum-Howell Co.....	139
Machem & Mayer Elec. Mfg. Co. ....	17
* Majestic Furnace & Foundry Co. ....	28
* Marine Eng. & Mach. Co.....	92
Manhattan Brass Co.....	28
Manhattan Iron Works.....	96
Matheson Lead Co.....	Insert
Mengel & Bro. Co., C. C.....	53
* Meurer Bros. Co.....	79
* Morgan Co.....	103
Moses, L.....	78
* Muckenhirn Closet Co.....	142
* Mueller, H. Mfg. Co.....	151
* Mullins Co., W. H.....	98
* National Dictograph Co.....	81
* National Fire Proofing Co.....	124
* National Lead Co.....	61
National Meter Co.....	79
* Nelson Co., C. T.....	74
* Never-Split Seat Co.....	144
Non-Staining Cement Co.....	123
Norcross Bros.....	58
* Northwestern Terra Cotta Co.	78
* Ohio Elevator & Machine Co.	77
* Otis Elevator Co.....	82, 83
Parker, Preston & Co.....	116
Pearlman & Co., V. S.....	66
* Peele Co.....	6
Persian Rug Mfty.....	67
* Phila. & Boston Face Brick Co.	118
Pierce, Butler & Pierce Mfg. Co. ....	138
* Pittsburgh Gage & Supply Co.	112
* Rackle & Sons Co., Geo.....	97
Rapp Co., John W.....	60
Record & Guide.....	32, 130
* Reliance Ball-Bearing Door Hanger Co. ....	102
* Richards Mfg. Co.....	93
Richardson & Boynton Co.....	127
Richardson Engineering Co.....	126
* Ridgway Dynamo & Engine Co. ....	86
* Rinald Bros.....	126
* Rixson Co., Oscar C.....	114
Roberts Filter Co.....	30
* Rockland-Rockport Lime Co.	80
Roebling Construction Co.....	46
* Rookwood Pottery Co.....	43
* Royal Ventilator & Mfg. Co.,	40, 41
Russell & Erwin Mfg. Co.....	49
* Rutland-Florence Marble Co.,	84, 85
* Sagax Wood Co.....	1
* Samson Cordage Works.....	126
Sandusky Portland Cement Co.	135
Sanitary Co.....	146
* Sayre & Fisher Co.....	72
Schick-Johnson Co.....	2
Schreiber, L. & Sons Co.....	60
Seifert Plastic Relief Co., F. A. ....	113
* Sharon Steel Hoop Co.....	125
Silver Lake Co.....	126
Shaefer, Jr., & Co., John.....	1
Smith & Egge Mfg. Co.....	118
* Soss Mfg. Co.....	30
* Standard Varnish Co.....	30
Stearns Lumber Co., A. T.....	79
* Stebbins Mfg. Co.....	141
Steinway & Sons.....	55
Stevens & Co.....	64
* Stewart Iron Works.....	130
Stromberg-Carlson Tel. Mfg. Co. ....	15
"Sweets".....	148
* Syracuse Corner Block Factory .....	126
Tablet & Ticket Co.....	78
* Taylor Co., N. & G.....	117
Taylor, Ronald.....	87
Thatcher Furnace Co.....	87
* Thomas & Smith, Inc.....	119
* Thomson Wood Finishing Co.,	104, 110
* Thorp Fire Proof Door Co.....	54
* Three States Lumber Co., The,	90, 91
Tragers Steam Copper Works.....	142
* Trenton Potteries Co.....	145
* Trussed Concrete Steel Co.....	122
Universal Portland Cement Co.	132
* Vacuum Eng. Co.....	136
* Van Dorn Iron Works Co.....	68
* Vermont Marble Co.....	126
* Voigtmann & Co.....	111
Vreeland Building Co., J. C.....	88
Wallace, N.....	130
* Warren Bros. Co.....	106
* Waterproofing Co. The.....	127
* Western Electric Co.....	101
White Enamel Refrigerator Co. ....	141
* White Fireproof Construction Co. ....	2d Cover
Wilks Mfg. Co., S.....	137
* Williams, B. A. & G. N.....	29
* Williams, Inc., John.....	7
Wilson, A. & S.....	119
* Winslow Bros. Co.....	5
* Wirt & Knox Mfg. Co.....	66
Wolff Mfg. Co., L.....	152
* Wood Mfg. Co., John.....	136
* Wood Mosaic Flooring Co.....	76
Yale & Towne Mfg. Co.....	3

Catalogue of concerns marked \* will be found in the 1910 Edition "Sweet's"  
Catalogue of Building Construction.

## Durability and Beauty in Floor Finish

Floors finished with Elastica Floor Finish are satisfactory after they have been used as well as when the Elastica is first applied.

Floors finished with many other floor finishes look well only before they are used.

The purpose for which the room is to be used or the kind of flooring makes no difference—Elastica Floor Finish has proved itself in the severest possible tests.



### FLOOR FINISH

beautifies all woods. It is a genuine finish.

It is the kind of a floor finish that ought to appeal to you.

Elastica Floor Finish combines Durability and Beauty, which is equivalent to complete satisfaction.

Elastica Floor Finish is worthy your consideration.

May we send your further particulars?

---

---

## STANDARD VARNISH WORKS

CHICAGO

BERLIN

NEW YORK

LONDON

BRUSSELS

Canadian Branch: International Varnish Co., Ltd., Toronto



# A Directory for Architectural Specifications

For Alphabetical List of Advertisers, see page 18.

## Air Washers.

Carrier Air Conditioning Co. of America, 39 Cortlandt St., N. Y. C.; Buffalo, N. Y.  
Thomas and Smith, Chicago; New York.

## Architectural Faience.

Rookwood Pottery, Cincinnati, O.; 1 Madison Ave., N. Y. C.

## Architectural Sheet and Metal Work.

W. H. Mullins Co., Salem, O.

## Architectural Supplies.

Economy Drawing Table Co., Toledo, O.  
Hardtmuth, L. & C., 34 East 23d St., N. Y. C.  
Lufkin Rule Co., Saginaw, Mich.

## Architectural Wood Work.

Hartmann-Sanders Co., Elston and Webster Aves., Chicago, Ill.; N. Y. office, 1123 B'way.

## Asbestos Roofing and Sheathing.

Kearsey & Mattison Co., Ambler, Pa.

## Asphalt.

Barber Asphalt Paving Co., Philadelphia, Pa.

## Automatic Clocks.

Hahl Automatic Clock Co., Schiller Bldg., Chicago, Ill.; 103 Park Ave., N. Y. City.

## Automobiles.

Thomas B. Jeffery & Co., Kenosha, Wis.

## Automobile Electric Charging Apparatus.

Richardson Engineering Co., Hartford, Conn.

## Bedford Stone.

Bedford Quarries Co., Chicago, Ill.

## Blackboards.

E. J. Johnson Co., 38 Park Row, N. Y. C.

## Boilers.

American Radiator Co., Chicago.  
Dahlquist Mfg. Co., So. Boston, Mass.  
Gorton & Lidgerwood Co., 96 Liberty St., N. Y. C.  
Kewanee Boiler Co., Kewanee, Ill.  
McCrum-Howell Co., Park Ave. & 41st St., N. Y. C.

Pierce, Butler & Pierce Mfg. Co., Syracuse, N. Y.  
Richardson & Boynton Co., Boston, New York, Chicago.

Thatcher Furnace Co., 110 Beekman St., N. Y. C.

Wood Mfg. Co., John, Conshohocken, Pa.

## Brass and Bronze Workers.

Architects Standard Bronze Co., 1 Madison Ave., N. Y. C.  
Cleveland Art Metal Co., Cleveland, O.  
Flour City Ornamental Iron Works, Minneapolis.  
Gorham Co., New York City; Providence, R. I.  
Hecla Iron Works, N. 11th and Berry Sts., Brooklyn, N. Y.  
Edwin A. Jackson & Bro., 49 Beekman St., N. Y.  
W. H. Jackson Co., 29 E. 17th St., N. Y. C.  
Lasar-Letzig Mfg. Co., St. Louis, Mo.  
L. Schreiber & Sons Co., Cincinnati, O.  
Jno. Williams, Inc., 556 W. 27th St., N. Y. C.  
Winslow Bros. Co., Chicago; N. Y. Office, 160 5th Ave.

## Brick.

Fiske & Co., Flatiron Bldg., N. Y. C.  
Bradford Pressed Brick Co., Bradford, Pa.  
Phila. & Boston Face Brick Co., Boston, Mass.  
Sayre & Fisher Co., 207 B'way, N. Y. C.

## Brick Stains.

Parker, Preston & Co., Norwich, Conn.

## Builders.

C. Everett Clark Co., 100 Washington St., Chicago.

A. & S. Wilson Co., Pittsburg, Pa.

## Building Reports.

Dodge Co., F. W., New York.

## Cabinets, Filing.

Globe-Wernicke Co., Cincinnati, O.

## Calclmines.

M. E. Fox & Co., 136th St. & Rlder Ave., N. Y. C.

## Caps for Columns and Pilasters.

Hartmann-Sanders Co., Elston and Webster Aves., Chicago, Ill.; N. Y. Office, 1123 B'way.

## Casement Window Adjuster.

Oscar C. Rixson Co., 111 W. Harrison St., Chicago, Ill.

## Cedar (Red).

Gulf Red Cedar Co., Richmond, Va.

## Ceilings, Metal.

Edwards Mfg. Company, Cincinnati, O.

## Cement.

Atlas Portland Cement Co., 30 Broad St., N. Y. C.  
Consolidated Rosendale Cement Co., 50 Church St., N. Y. C.

Edison Port. Cement Co., 1123 Broadway, N. Y.  
Lawrence Cement Co., 1 Broadway, N. Y. C.  
Lehigh Portland Cement Co., Allentown, Pa.  
Non-Staining Cement Co., 156 5th Ave., N. Y. C.  
Sandusky Portland Cement Co., Sandusky, O.  
Universal Portland Cement Co., Commercial Nat'l Bank Bldg., Chicago

## Cement Waterproof Compound.

Sandusky Portland Cement Co., Sandusky, O.

## Changeable Bulletin Board.

Tablet & Ticket Co., 381 Broadway, N. Y. C.; Chicago; San Francisco.

## Chutes (Coal, Wood and Vegetable).

Majestic Furnace & Foundry Co., Huntington, Ind.

## Clocks (Automatic).

Hahl Automatic Clock Co., Schiller Bldg., Chicago, Ill.; 103 Park Ave., N. Y. C.

## Clothes Dryer.

Hill-Canton Dryer Co., Worcester, Mass.; 1133 Broadway, N. Y. C.; Canton, Ohio.

## Columns (Lock Joint).

Hartmann-Sanders Co., Elston and Webster Aves., Chicago, Ill.; N. Y. office, 1123 B'way.  
C. T. Nelson Co., Columbus, O.

## Columns (Wood and Cement).

Decorators' Supply Co., Archer Ave. & Leo St., Chicago; 123 Fourth Ave., N. Y. C.

## Composition (Capitals and Ornaments).

Architectural Decorating Co., 643 S. Jefferson St., Chicago.

Decorators Supply Co., Archer Ave. & Leo St., Chicago; 123 Fourth Ave., N. Y. C.

## Concrete Construction, Reinforced.

American Steel & Wire Co., Chicago, New York, Denver, San Francisco.

Corrugated Bar Co., Bank of Commerce Bldg., St. Louis.

Howes, Benj. A., 15 W. 38th St., N. Y. C.

Trussed Concrete Steel Co., Detroit, Mich.

Vaughan Co., 145 La Salle St., Chicago, Ill.

## Concrete Stairs.

White Fireproof Construction Co., 1 Madison Ave., N. Y. C.

## Consulting Electrical Engineers.

Richardson Engineering Co., Hartford, Conn.

## Contracting Electrical Engineers.

Dennis G. Brussel, 15 W. 29th St., N. Y. C.  
Richardson Engineering Co., Hartford, Conn.  
Western Electric Co., New York.

## Cooling Rooms.

McCray Refrigerator Co., Kendallville, Ind.

## Copper Work.

Dahlquist Mfg. Co., So. Boston, Mass.  
John Trageser Steam Copper Works, 447 W. 26th St., N. Y. C.

## Cork.

Armstrong Cork Co., Pittsburgh, Pa.

## Corner Blocks.

Syracuse Corner Block Factory, Syracuse, N. Y.

## Cork Tiling.

David E. Kennedy, Inc., 420 5th Ave., N. Y. C.

## Corner Bead.

Sharon Steel Hoop Co., Mfrs., c/o Fuller Bros. & Co., 139 Greenwich St., N. Y. C.; Chicago office: Commercial Nat. Bank Bldg.

## “Waterproofing by the Positive Seal Method”

This is a booklet in which every architect and engineer will be interested. It gives detailed information regarding the most approved methods of underground waterproofing, based on expert technical knowledge and broad experience.

The Genasco Positive Seal materials include:

**Positive Seal Felt**, an asphalt-coated felt of high tensile strength.

**Positive Seal Fabric**, for use where unusual strength is required to withstand incessant vibration or excessive contraction and expansion.

**Positive Seal Solid Cement**, applied hot either alone or as a ply cement with the felt or fabric, depending upon the conditions to be met.

**Positive Seal Liquid Cement.** A substitute for Positive Seal Solid Cement where there are no facilities for heating the latter.

**Positive Seal Paint No. 1.** A dampproofing paint for brick, stone or concrete, which may be plastered over without lathing or furring.

**Positive Seal Paint No. 2.** A priming coat for wood, masonry or steel, forming a perfect bond with Positive Seal Solid Cement when the latter is applied hot.

All these materials are fully described in the booklet, which will be mailed upon request.

THE BARBER ASPHALT PAVING CO.

Largest producers of asphalt in the world

PHILADELPHIA

New York

San Francisco

Chicago



**Decorations (Plastic Relief).**

Architectural Decorating Co., 643 S. Jefferson St., Chicago.  
Decorators' Supply Co., Archer Ave. & Leo St., Chicago; San Francisco.  
Fischer & Jirouch, 1008 Scovill Ave., S. E., Cleveland, O.  
Gensch Co., H., 1521 Eastwood Ave., Chicago.  
Frank A. Seifert Plastic Relief Co., St. Louis, Mo.

**Directory for Office Buildings.**

Tablet & Ticket Co., 381 B'way, N. Y. C.; Chicago; San Francisco.

**Door Hangers.**

Reliance Ball Bearing Door Hanger Co., 1 Madison Ave., N. Y. C.  
Richards Mfg. Co., Aurora, Ill.

**Door Holder.**

Caldwell Mfg. Co., 40 Jones St., Rochester, N. Y.  
Yale & Towne Mfg. Co., 9 Murray St., N. Y. C.

**Doors.**

Morgan Co., Oshkosh, Wis.

**Drawing Inks.**

Charles M. Higgins Co., Main Office, 271 9th St., Brooklyn, N. Y.

**Dynamos.**

Ridgway Dynamo & Engine Co., Ridgway, Pa.  
Western Electric Co., New York.

**Electrical Engineers.**

Dennis G. Brussel, 15 W. 29th St., N. Y. C.  
Richardson Engineering Co., Hartford, Conn.

**Electrical Equipment.**

Dennis G. Brussel, 15 W. 29th St., N. Y. C.  
Hart Mfg. Co., Hartford, Conn.  
Richardson Engineering Co., Hartford, Conn.  
Ridgway Dynamo & Engine Co., Ridgway, Pa.  
Western Electric Co., New York.

**Electric Lighting Equipment.**

Richardson Engineering Co., Hartford, Conn.

**Electric Pumps.**

Hart Mfg. Co., Hartford, Conn.

**Electric Receptacles & Switches.**

Hart Mfg. Co., Hartford, Conn.

**Elevators.**

Ohio Elevator & Machine Co., Columbus, O.  
Otis Elevator Co., 17 Battery Pl., N. Y. C.

**Enameled Brick.**

Amer. Enameled Brick & Tile Co., 1 Madison Ave., N. Y. C.  
Sayre & Fisher Co., 207 B'way, N. Y. C.

**Enamel Paint.**

Lowe Bros. Co., Dayton, Ohio.  
Rinald Bros., 1142 North Hancock St., Philadelphia, Pa.  
Thomson Wood Finishing Co., Philadelphia.

**Engineers and Contractors.**

American Bridge Co., Hudson Terminal, 30 Church St., N. Y. C.; Frick Bldg., Pittsburg, Pa.; Monadnock Block, Chicago; Third Nat'l Bank Bldg., St. Louis; 141 Milk St., Boston.  
Howes, Benj. A., 15 W. 38th St., N. Y. C.  
A. & S. Wilson Co., Pittsburg, Pa.  
The Waterproofing Co., New York, Boston, Pittsburg.

**Expanded Metal.**

Garry Iron & Steel Co., Cleveland, O.

**Finishes (Wood).**

Bridgeport Wood Finishing Co., New Milford, Conn.

**Fireplace Fixtures.**

Edwin A. Jackson & Bro., 49 Beekman St., N. Y. C.  
W. H. Jackson Co., 29 E. 17th St., N. Y. C.

**Fireproof Doors and Shutters.**

Dahlstrom Metallic Door Co., Jamestown, N. Y.  
John W. Rapp Co., 1 Madison Ave., N. Y. C.  
Sagax Wood Co., Baltimore, Md.  
Thorpe Fireproof Door Co., Minneapolis, Minn.

**Fireproof Paint.**

M. Ewing Fox & Co., 136th St. and Rider Ave., New York and Chicago.

**Fireproof Windows.**

American Luxfer Prism Co., Chicago; N. Y. Office, 507-509 W. Broadway; Boston, Mass.  
Detroit Steel Products Co., Detroit, Mich.; 2 Rector St., N. Y. C.  
W. H. Mullins Co., Salem, Ohio.  
John W. Rapp Co., 1 Madison Ave., N. Y. C.  
Voigtmann & Co., Chicago and New York.

**Fireproofing.**

American Steel & Wire Co., Chicago, New York, Denver, San Francisco.  
Hecla Iron Works, N. 11th and Berry Sts., Brooklyn, N. Y.  
National Fireproofing Co., Commercial Nat'l Bank Bldg., Chicago, Ill.  
Roebbling Construction Co., Fuller Bldg., N.Y.C.  
Thorpe Fireproof Door Co., Minneapolis, Minn.  
Trussed Concrete Steel Co., Detroit, Mich.  
White Fireproof Construction Co., 1 Madison Ave., N. Y. C.

**Floor Tiling.**

David E. Kennedy, Inc., 420 5th Ave., N. Y. C.  
Phila. & Boston Face Brick Co., Boston, Mass.

**Furnaces and Ranges.**

Richardson & Boynton Co., Boston, New York, Chicago.  
Thatcher Furnace Co., 110 Beekman St., N.Y.C.

**Furniture.**

Berkey & Gay Furn. Co., Grand Rapids, Mich.  
S. Karpen & Bros., 187 Michigan Ave., Chicago; 155 W. 34th St., N. Y. C.  
Mayhew Co., Milwaukee, Wis.

**Garbage Crematory.**

S. Wilks Mfg. Co., 3535 Shields Ave., Chicago.

**Greenhouses.**

A. T. Stearns Lumber Co., Neponset, Boston

**Grilles (Wood).**

Decorators' Supply Co., Archer Ave. & Leo St., Chicago; 123 Fourth Ave., N. Y. C.

**Gutters (Wood).**

A. T. Stearns Lumber Co., Neponset, Boston.

**Hardware.**

Chicago Spring Butt Co., Chicago and N. Y. C.  
Richards Mfg. Co., Aurora, Ill.  
Russell & Erwin Mfg. Co., New Britain, Conn.; N. Y. Office, 26 W. 26th St.; Chicago, Philadelphia and San Francisco.  
Yale & Towne Mfg. Co., 9 Murray St., N. Y. C.

**Hardwood Floors.**

Wood-Mosaic Flooring Co., Rochester, N. Y.

**Heat Regulation.**

Illinois Heater Mfg. Co., Chicago, Ill.

**Heating Apparatus.**

American Radiator Co., Chicago.  
Gorton & Lidgerwood Co., 96 Liberty St., N.Y.C.  
Harrison Eng. Co., 42 E. 23d St., N. Y. C.  
Illinois Heater Mfg. Co., Chicago, Ill.  
Kelsey Heating Co., Syracuse, N. Y.  
McCrum-Howell Co., Park Ave. & 41st St., N.Y.C.  
Pierce, Butler & Pierce Mfg. Co., Syracuse, New York, Boston and Philadelphia.  
Thatcher Furnace Co., 110 Beekman St., N.Y.C.

**Hinges and Butts.**

Chicago Spring Butt Co., Chicago and N. Y. C.  
Yale & Towne Mfg. Co., 9 Murray St., N. Y. C.

**Hose (Fire).**

Eureka Fire Hose Mfg. Co., 13 Barclay St., N. Y. C.

**Hose-Rack.**

Wirt & Knox Mfg. Co., North 4th St., Phila., Pa.

**Ice Boxes.**

McCray Refrigerator Co., Kendallville, Ind.

**Ice Machinery.**

Baker Ice Machine Co., Omaha, Neb.

**Indiana Limestone.**

Bedford Quarries Co., Chicago, Ill.

**Interior Woodwork.**

Morgan Co., Oshkosh, Wis.  
A. T. Stearns Lumber Co., Neponset, Boston.

**Iron Bases.**

Syracuse Corner Block Factory, Syracuse, N. Y.

**Iron and Metal Workers.**

Flour City Ornamental Iron Works, Minneapolis, Hecla Iron Works, N. 11th and Berry Sts., Brooklyn, N. Y.  
W. H. Mullins Co., Salem, Ohio.  
L. Schreiber & Sons Co., Cincinnati, O.  
Stewart Iron Works Co., Cincinnati, Ohio.  
Jno. Williams, Inc., 556 W. 27th St., N. Y. C.  
Winslow Bros. Co., Chicago; N. Y. Office, 180 5th Ave.

**Kalsomine.**

M. Ewing Fox & Co., 136th St. and Rider Ave., N. Y. C.; 53-55 E. Lake St., Chicago.

# Barrett Specification Roofs



Phelps  
Publishing Co.,  
Springfield, Mass.

## Insist that the Specification be Followed!

For certainty of results, specify that your building shall be roofed "*according to The Barrett Specification.*"

Don't specify in general terms.

Don't say "a Gravel roof," or "a Pitch and Gravel roof," or "a Slag roof," or "a Tar roof"—that is inviting trouble. Say "according to The Barrett Specification." Insist that the full specification be followed.

That means you are ordering something *definite*. It makes slipshod workmanship easy to detect. It requires the use of the proper weight of felt and the proper grade and amount of pitch.

A Barrett Specification roof is certain

to last 20 years and more. We know of many cases where such roofs have lasted over 30 years *without costing a cent for maintenance.*

The Barrett Specification prescribes with precision the way such a roof should be laid to give *maximum service*. It is a practical specification and to-day is used and endorsed by the leading architects and engineers. It is not based on academic theory, but on the best practice of the day.

Every engineer, architect and owner of buildings, should have The Barrett Specification on file. Copies of it will be sent free on request. Address our nearest office.

## BARRETT MANUFACTURING COMPANY

New York	Chicago	Philadelphia	Boston	Cleveland	Pittsburg	Cincinnati
Kansas City	Minneapolis	New Orleans	St. Louis	London, Eng.		



**Lath (Metal).**

Bostwick Steel Co., Niles, O.  
Garry Iron & Steel Co., Cleveland, O.  
Trussed Concrete Steel Co., Detroit, Mich.

**Lighting and Power Plants.**

Dennis G. Brussel, 15 W. 29th St., N. Y. C.  
Richardson Engineering Co., Hartford, Conn.

**Lighting Fixtures.**

Architects Standard Bronze Co., 1 Madison Ave., N. Y. C.  
Pearlman & Co., V. S., 10 E. Adams St., Chicago, Ill.

**Lightning Conductors.**

N. Wallace, Farmington, Conn.

**Limestone.**

Bedford Quarries Co., Chicago, Ill.

**Locks.**

Yale & Towne Mfg. Co., 9 Murray St., N. Y. C.

**Lockers (Metal).**

Van Dorn Iron Works Co., Cleveland, O.

**Mahogany.**

C. C. Mengel & Bro. Co., Louisville, Ky.

**Mantels.**

Edwin A. Jackson & Bro., 49 Beekman St., N. Y. C.  
W. H. Jackson Co., 29 E. 17th St., N. Y. C.;  
Foundry and Shops, 229-239 W. 28th St.

**Mantels (Brick.)**

Phila. & Boston Face Brick Co., Boston, Mass.

**Marble.**

Rutland-Florence Marble Co., Fowler, Vt.

**Measuring Tapes.**

Lufkin Rule Co., Saginaw, Mich.

**Medicine Cabinet.**

Hess Warming & Ventilating Co., Tacoma Bldg., Chicago, Ill.

**Metal Corner.**

Sharon Steel Hoop Co., Mfrs., c/o Fuller Bros. & Co., 139 Greenwich St., N. Y. C.; Chicago office: Commercial Nat. Bank Bldg.

**Metal-Covered Doors and Trim.**

Thorpe Fireproof Door Co., Minneapolis, Minn.  
John W. Rapp Co., 1 Madison Ave., N. Y. C.

**Metal Furniture.**

Van Dorn Iron Works Co., Cleveland, Ohio.

**Metal Lath.**

Bostwick Steel Co., Niles, O.  
Edwards Mfg. Company, Cincinnati, O.  
White Fireproof Construction Co., 1 Madison Ave., N. Y. C.

**Metal Lumber.**

Berger Mfg. Co., Canton, O.

**Metal Roofing.**

Edwards Mfg. Company, Cincinnati, O.  
N. & G. Taylor Co., Philadelphia, Pa.

**Metal Store Front Construction.**

Detroit Show Case Co., Detroit, Mich.

**Metal Tile.**

Edwards Mfg. Company, Cincinnati, Ohio.

**Metal Weather-strips.**

Chamberlin Metal Weather Strip Co., Detroit, Mortar Colors.

**Mosaic Wood Floors.**

Wood-Mosaic Flooring Co., Rochester, N. Y.

**Motors (Electric).**

Ridgway Dynamo & Engine Co., Ridgway, Pa.

Western Electric Co., New York.

**Nursery Stock.**

Bobbink & Atkins, Rutherford, N. J.

**Ornamental Brick.**

Phila. & Boston Face Brick Co., Boston, Mass.

**Ornamental Ironwork.**

Cleveland Art Metal Co., Cleveland, O.  
Lasar-Letzig Mfg. Co., St. Louis, Mo.  
L. Schreiber & Sons Co., Cincinnati, O.  
Stewart Iron Works Co., Cincinnati, Ohio.  
Winslow Bros. Co., Chicago; N. Y. Office, 100 5th Ave.

**Ornaments (Composition).**

Decorators' Supply Co., Archer Ave. & Leo St., Chicago; 123 Fourth Ave., N. Y. C.  
Fischer & Jirouch, 1008 Scovill Ave., S. E., Cleveland, O.  
Gensch Co., H., 1521 Eastwood Ave., Chicago.  
Frank A. Seifert Plastic Relief Co., St. Louis, Mo.

**Padlocks.**

Yale & Towne Mfg. Co., 9 Murray St., N. Y. C.

**Paints.**

Carter White Lead Co., Chicago, Ill.  
M. Ewing Fox & Co., 136th St. and Rider Ave., N. Y. C.; 53-55 E. Lake St., Chicago.  
Gardiner & Son, Geo. N., 15 William St., N. Y. C.  
Lowe Bros. Co., Dayton, Ohio.  
National Lead Co., 111 Broadway, N. Y. C.  
Rinald Bros., 1142 N. Hancock St., Philadelphia.  
The Thomson Wood Finishing Co., Phila., Pa.

**Parquet Flooring.**

Wood-Mosaic Flooring Co., Rochester, N. Y.

**Pavement Filler.**

Barrett Mfg. Co., 17 Battery Pl., N. Y. C.

**Pianos (Special Cases to Order).**

Steinway & Sons, 107 East 14th St., N. Y. C.

**Pipe Covering.**

Armstrong Cork Co., Pittsburgh, Pa.

**Plumbing Fixtures.**

Cahill Iron Works, Chattanooga, Tenn.  
Clow & Sons, J. B., 342 Franklin Ave., Chicago, Ill.  
Columbus Heating & Ventilating Co., Columbus, O.  
Glauber Brass Mfg. Co., Cleveland, O.  
Imperial Brass Mfg. Co., Chicago, Ill.  
McCrum-Howell Co., Park Ave. & 41st St., N. Y. C.  
C. H. Muckenhirn Closet Co., Detroit, Mich.  
H. Mueller Mfg. Co., Decatur, Ill.  
Sanitary Co., Cleveland, O.  
Stebbins Mfg. Co., Springfield, Mass.  
John Trageser Steam Copper Works, 447 W. 26th St., N. Y. C.  
Trenton Potteries Co., Trenton, N. J.  
L. Wolff Mfg. Co., Chicago; Trenton, N. J.

**Pneumatic Water Supply.**

Kewanee Water Supply Co., Kewanee, Ill.

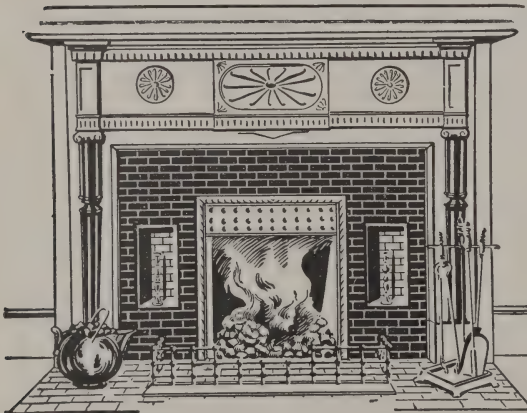
**Porcelain Enameled Baths.**

Cahill Iron Works, Chattanooga, Tenn.

L. Wolff Mfg. Co., Chicago.

**Porcelain Enamel Paint.**

Rinald Bros., 1142-1146 N. Hancock St., Philadelphia, Pa.



# JACKSON

## Ventilating Grate

THE only open grate that warms and brings in outdoor air, and takes out the air of the room that is impure. It is a constant and perfect ventilator, having a fresh air supply on the principle of the hot-air furnace. Will heat rooms on two floors if desired, and will burn coal, wood or gas. Keeps fire from fall to spring. Made in many patterns, to fit any fireplace. Catalogue No. 1 shows styles and prices. May we send you a copy?

Special Catalogue of Mantels, Andirons and Fireplace Fittings sent upon request.

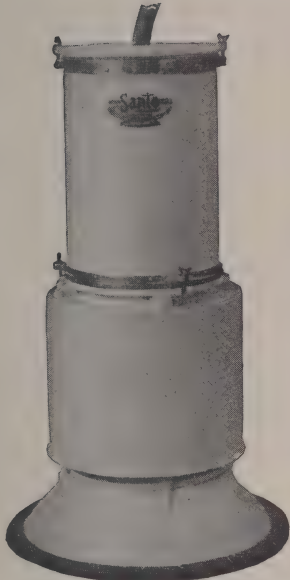
E. A. JACKSON & BRO., 49 Beekman St., New York

THIS IS THE "RESIDENCE SPECIAL"

# Santo Vacuum Cleaner

Perfection The Only Cleaner Without a Fault

Different From All Other Cleaners



This machine employs our well known system of dry separation which has been used for years with perfect satisfaction. Start or stop it from any number of floors or rooms by snap switches. No installation expense. No foundation. Simply connect with pipes and wires.

Height, 40 inches. Diameter at base, 23 inches. Weight, 175 lbs. Finished in cream white with black stripes. Complete equipment included.

Absolutely high grade. Fully guaranteed.

Let us tell you more about it.

## WE ALSO MAKE

A complete line of vacuum cleaning plants for all purposes, including both portable and stationary types of one to fifty sweeper capacity.

We own and operate the largest factory in the world devoted to this business. Our engineering department is at your disposal, and will submit estimates promptly upon request.

Send Us Your Specifications

This machine is the result of many years of costly experiment to produce a high grade, low priced, economically operated cleaning plant for permanent installation. It is offered at a price within reach of every builder of a home.

The SANTO "RESIDENCE SPECIAL" is perfectly adapted to any number of rooms up to 20. It embodies the principles of our well known Santo Portable Cleaner, which is everywhere recognized as the standard of perfection in vacuum cleaners.

## An Unequalled Combination

In the Santo "Residence Special" we offer a combination of high efficiency together with many other vital features which make up the most desirable and economical cleaning plant in the world for residence use.

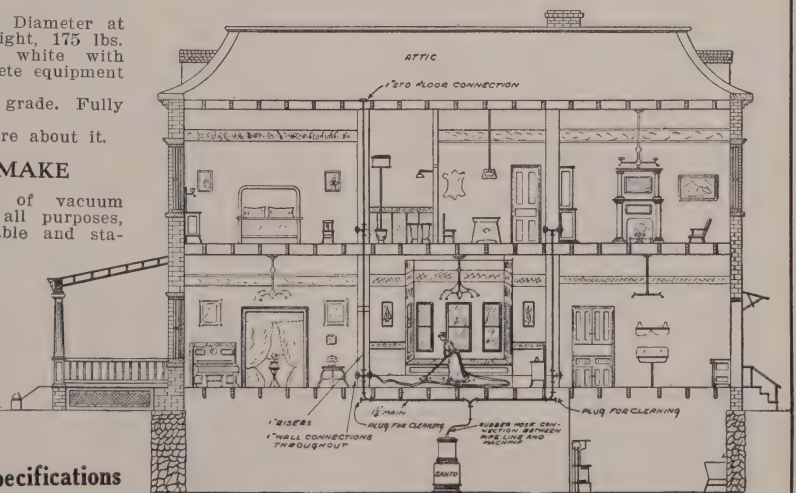
It maintains a vacuum of over 8 inches of mercury and displaces over 40 cubic feet of air per minute—the amounts and proportion necessary for thorough cleaning. This efficiency—this perfect balance can not be obtained in any other cleaner.

This efficiency is obtained with a motor of only  $\frac{1}{4}$  H.P., which is connected to the lighting circuit and operated at a cost of less than 4 cents per hour. No special service wires needed.

No noise or vibration in the house. The motor is connected direct to the powerful duplex pump with ball-bearing eccentrics. No gears, belts or chains. Nothing to get out of order. Requires oiling only 3 or 4 times a year.

This Cleaner cannot be equalled at any price.

PLAN OF FIRST FLOOR



Keller Manufacturing Co., Dept. 2 AR, Philadelphia, Pa.



**Porcelite Enamel Paint.**

Thomson Wood Finishing Co., Philadelphia.

**Prism Lighting.**

American Luxfer Prism Co., Heyworth Bldg., Chicago; 507-509 West Broadway, N. Y. C.  
Grauer & Co., Pittsburgh, Pa.

**Radiators.**

American Radiator Co., Chicago.  
McCrum-Howell Co., Park Ave. & 41st St., N.Y.C.  
Pierce Butler & Pierce Mfg. Co., Syracuse, N. Y.

**Red Cedar.**

Gulf Red Cedar Co., Richmond, Va.

**Red Gum.**

Carrier Lumber & Mfg. Co., Sardis, Miss.  
Himmelberger-Harrison Lumber Co., Morehouse, Mo.  
Lamb-Fish Lumber Co., Memphis, Tenn.  
Chas. F. Luehrmann Hardwood Lumber Co., St. Louis, Mo.  
Three States Lumber Co., Memphis, Tenn.

**Red Lead.**

National Lead Co., 111 Broadway, N. Y. C.

**Refrigerators.**

McCray Refrigerator Co., Kendallville, Ind.

**Reports (Building).**

Dodge Co., F. W., New York.

**Roofing (Metal, Slate and Tile).**

Atlas Roofing Co., Newburgh, N. Y.  
Barber Asphalt Paving Co., Philadelphia, Pa.  
Barrett Mfg. Co., 17 Battery Pl., N. Y. C.  
F. W. Bird & Son, East Walpole, Mass.  
E. J. Johnson Co., 38 Park Row, N. Y. C.  
Keasbey & Mattison Co., Ambler, Pa.  
National Roofing Tile Co., Lima, Ohio.  
N. & G. Taylor Co., Chestnut and 3d Sts., Philadelphia, Pa.; N. Y. Office, 1123 Broadway.

**Rules.**

Lufkin Rule Co., Saginaw, Mich.

**Sanitary Plumbing Appliances.**

Cahill Iron Works, Chattanooga, Tenn.  
Clow & Sons, J. B., 342 Franklin Ave., Chicago, Ill.  
Columbus Heating & Ventilating Co., Columbus, O.  
Glauber Brass Mfg. Co., Cleveland, O.  
Imperial Brass Mfg. Co., Chicago, Ill.  
C. H. Muckenhirn Closet Co., Detroit, Mich.  
H. Mueller Mfg. Co., Decatur, Ill.  
Never-Split Seat Co., Evansville, Ind.  
Pierce, Butler & Pierce Mfg. Co., Syracuse, New York, Boston and Philadelphia.  
Sanitary Co., Cleveland, O.  
Stebbins Mfg. Co., Springfield, Mass.  
John Trageser Steam Copper Works, 447 W. 26th St., N. Y. C.  
Trenton Potteries Co., Trenton, N. J.  
L. Wolff Mfg. Co., Chicago; Trenton, N. J.

**Sash.**

Morgan Co., Oshkosh, Wis.

**Sash Chain.**

Smith & Egge Mfg. Co., Bridgeport, Conn.

**Sash Cord.**

Samson Cordage Works, Boston, Mass.  
Silver Lake Co., Boston, Mass.

**Sash, for Industrial Buildings.**

Detroit Steel Products Co., Detroit, Mich.

**Shades, Window.**

C. W. Breneman & Co., 2069 Reading Road, Cincinnati, O.

**Sheathing (Asbestos).**

Keasbey & Mattison Co., Ambler, Pa.

**Sheathing Papers.**

Barrett Mfg. Co., 17 Battery Pl., N. Y. C.  
F. W. Bird & Son, East Walpole, Mass.

**Sheet Metal Work.**

Atlas Roofing Co., Newburgh, N. Y.  
Berger Mfg. Co., Canton, O.  
Burt Mfg. Co., Akron, Ohio.

**Shingle Stains.**

Samuel Cabot, 141 Milk St., Boston, Mass.  
Parker, Preston & Co., Norwich, Conn.

**Sidewalk Lights.**

Grauer & Co., Pittsburgh, Pa.

**Skylights.**

Atlas Roofing Co., Newburgh, N. Y.  
Burt Mfg. Co., Akron, Ohio.

**Snow Guards.**

Folsom Snow Guard Co., Boston, Mass.

**Sound Deadeners.**

F. W. Bird & Son, East Walpole, Mass.  
Samuel Cabot, 141 Milk St., Boston, Mass.

**Stainless Portland Cement (Pure White).**

Sandusky Portland Cement Co., Sandusky, O.

**Steam and Hot-Water Heating.**

Pierce, Butler & Pierce Mfg. Co., Syracuse, New York, Boston and Philadelphia.  
Thatcher Furnace Co., 110 Beekman St., N.Y.C.

**Steam Engines.**

Ridgway Dynamo & Engine Co., Ridgway, Pa.

**Steel Cabinets.**

Art Metal Construction Co., Jamestown, N. Y.

**Steel Sash.**

Detroit Steel Products Co., Detroit, Mich.

**Stone (Artificial).**

Geo. Rackle & Sons Co., Cleveland, O.

**Structural Iron and Steel.**

American Bridge Co., Hudson Terminal, 30 Church St., N. Y. C.; Frick Bldg., Pittsburgh, Pa.; Monadnock Block, Chicago; Third Nat'l Bank Bldg., St. Louis; 141 Milk St., Boston.

**Systems, Filing.**

Globe-Wernicke Co., Cincinnati, O.

**Telephones (Automatic Intercommunic'g).**

National Dictograph Co., 1265 B'way, N. Y. C.  
Stromberg-Carlson Tel. Mfg. Co., Rochester, N. Y.; Chicago, Ill.; Kansas City, Mo.  
Western Electric Co., New York.

**Terra Cotta.**

National Fireproofing Co., Commercial Nat'l Bank Bldg., Chicago, Ill.  
Northwestern Terra Cotta Co., 1000 Claybourn Ave., Chicago, Ill.

**Tile (Cork).**

David E. Kennedy, Inc., 420 5th Ave., N. Y. C.

**Tile, Metal.**

Edwards Mfg. Company, Cincinnati, Ohio.

**Tin Plate.**

Garry Iron & Steel Co., Cleveland, O.  
N. & G. Taylor Co., Chestnut and Third Sts., Philadelphia, Pa.

**Toilet Paper Cabinet.**

A. P. W. Paper Co., Albany, N. Y.

**Trees, Shrubs, Etc.**

Bobbink & Atkins, Rutherford, N. J.

**Vacuum Cleaners.**

Cleveland Vacuum Machy Co., 1107 Prospect Ave., Cleveland, O.  
Vacuum Engineering Co., 114 Liberty St., N.Y.C.

**Valves.**

Jenkins Bros., New York, Boston, Philadelphia, Chicago and London.

**Varnish.**

Glidden Varnish Co., Cleveland, O.  
Lowe Bros. Co., Dayton, Ohio.  
Standard Varnish Works, New York, Chicago, Toronto, London, Berlin, Brussels.  
Thomson Wood Finishing Co., Philadelphia.

**Vault Lights.**

American Luxfer Prism Co., Chicago; 507-509 West Broadway, New York City.  
Grauer & Co., Pittsburgh, Pa.

**Ventilating Fans.**

Howard & Morse, 45 Fulton St., N. Y.

**Ventilators.**

Burt Mfg. Co., Akron, Ohio.  
Ideal Mfg. Co., Erie, Pa.  
Royal Ventilator Co., 417 Locust St., Phila., Pa.

**Wall and Ceiling Finishes.**

M. Ewing Fox & Co., 136th St. and Rider Ave., N. Y. C.; 53-55 E. Lake St., Chicago.

**Wall Boxes Electrical.**

Hart Mfg. Co., Hartford, Conn.

**Wall Hangings.**

Fr. Beck & Co., 7th Ave. and 29th St., N. Y. C.

**Wall Reels.**

Wirt & Knox Mfg. Co., North 4th St., Phila., Pa.

**Water Heaters.**

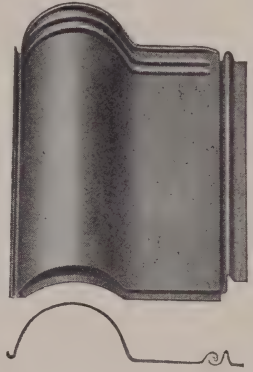
Humphrey Co., 533 Rose St., Kalamazoo, Mich.  
Kelsey Heating Co., Syracuse, N. Y.  
Thatcher Furnace Co., 110 Beekman St., N.Y.C.  
S. Wilks Mfg. Co., 3535 Shields Ave., Chicago,  
John Wood Mfg. Co., Conshohocken, Pa.



## *The Edwards Metal Spanish Tile*

These tiles are the *right* red. They are light, practically imperishable, distinctly correct in design. Wind-, weather-, storm-, fire- and lightning-

proof. Can be applied without soldering or the use of special tools by any competent workman. In fact, they have every good point of the heavy terra-cotta Spanish roofing tile with none of its disadvantages. Let us send you some literature on the subject.



**THE EDWARDS MFG. CO.**

610-630 Eggleston Avenue, Cincinnati, Ohio.

*"Out of the Ordinary"*

# ROOF SLATES

**BLACK — GREEN — PURPLE — RED**

Our productions are a development from the ordinary or standard grades of Roof Slates to the strong, heavy effects demanded by the architecture of the present day.

THICKNESSES, full 3-16 in.,  $\frac{1}{4}$  in.,  $\frac{3}{8}$  in.,  $\frac{1}{2}$  in.,  $\frac{3}{4}$  in., 1 in.,  $1\frac{1}{4}$  in.,  $1\frac{1}{2}$  in., all with drilled and countersunk nail holes and rough dressed edges.

COLORS — Grand Central Black, Unfading Green, Royal Purple, Unfading Mottled Purple and Green and Unfading Red.

Specify The E. J. Johnson Co. Production for Successful Results

# SLATE BLACKBOARDS

The hardest and strongest rock with a perfect hand shaved surface. A Blackboard not made to meet cheap competition but to furnish a perfect and lasting writing surface. Our Blackboard Pamphlet tells all about them, and also how to properly erect on the wall.

**THE E. J. JOHNSON CO.**

**Slate Producers**

MAIN OFFICE  
38 Park Row, New York

BRANCH OFFICE  
626 Park Bldg., Pittsburg, Pa.



# SAGAX

FIREPROOF WEATHERPROOF

## Wood Substitute Fire Doors and Fire Shutters

Approved by National Board of Fire Underwriters. Perfectly smooth. Nothing to rust. Can be finished in imitation of finest wood.

Send for catalogue, or see pages 708-9, in "Sweet's."

**The Sagax Wood Co.**

Foot Andre St., Baltimore, Md.

J. W. RAPP, N. Y. Distributor

## DONATO CUOZZO

General Contractor

**Specialties** Reinforced Concrete, Water Work, Landscape Work, etc. 25 years on field of construction.

Park Row Building, New York City

Telephone Connection

Estimates Furnished

### Waterproof Compound.

Sandusky Portland Cement Co., Sandusky, O.  
The Waterproofing Co., New York, Boston, Pittsburg.

### Water Supply.

Kewanee Water Supply Co., Kewanee, Ill.

### Weather-strips, Metal.

Chamberlin Metal Weather-Strip Co., Detroit.

### White Lead.

Carter White Lead Co., Chicago, Ill.  
National Lead Co., 111 Broadway, N. Y. C.

### Window Corner Posts.

Detroit Show Case Co., 477 West Fort St., Detroit, Mich.

### Window Frames.

Detroit Steel Products Co., Detroit, Mich.

### Window Sash.

Detroit Steel Products Co., Detroit, Mich.

### Windows (Prism).

American Luxfer Prism Co., 507-509 West Broadway, N. Y. C.; Chicago, Ill.

### Wiring (Electric).

Western Electric Co., New York.

### Wire Work.

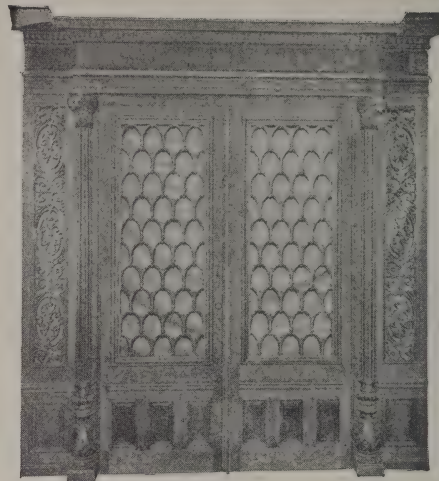
Estey Wire Works Co., 59 Fulton St., N. Y. C.

### Wood Filler.

Bridgeport Wood Finishing Co., New Milford, Conn.

### Wood Preservative.

Samuel Cabot, 141 Milk St. Boston, Mass.



ONE OF SIX PAIRS BRONZE DOORS  
Hall of Records, New York

MANHATTAN BRASS CO.

ARCHITECTURAL BRONZE AND BRASS

27th to 28th St. & 1st Ave.

New York

## Unsightly Coal Windows



Are always EYESORES.

Strictly Burglarproof.

No Broken Glass.

No Soiled Siding.

No Marred Foundation where the Majestic Chute is used.

It can be placed in an old wall as well as in new.

COAL WOOD

## MAJESTIC CHUTE

VEGETABLE

COST LOW

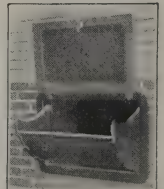
The cost is so small that no modern residence should be without one. Made in three sizes:

No. 1 ..... 16 x 22

No. 2 ..... 16 x 27

No. 3 ..... 22 x 33

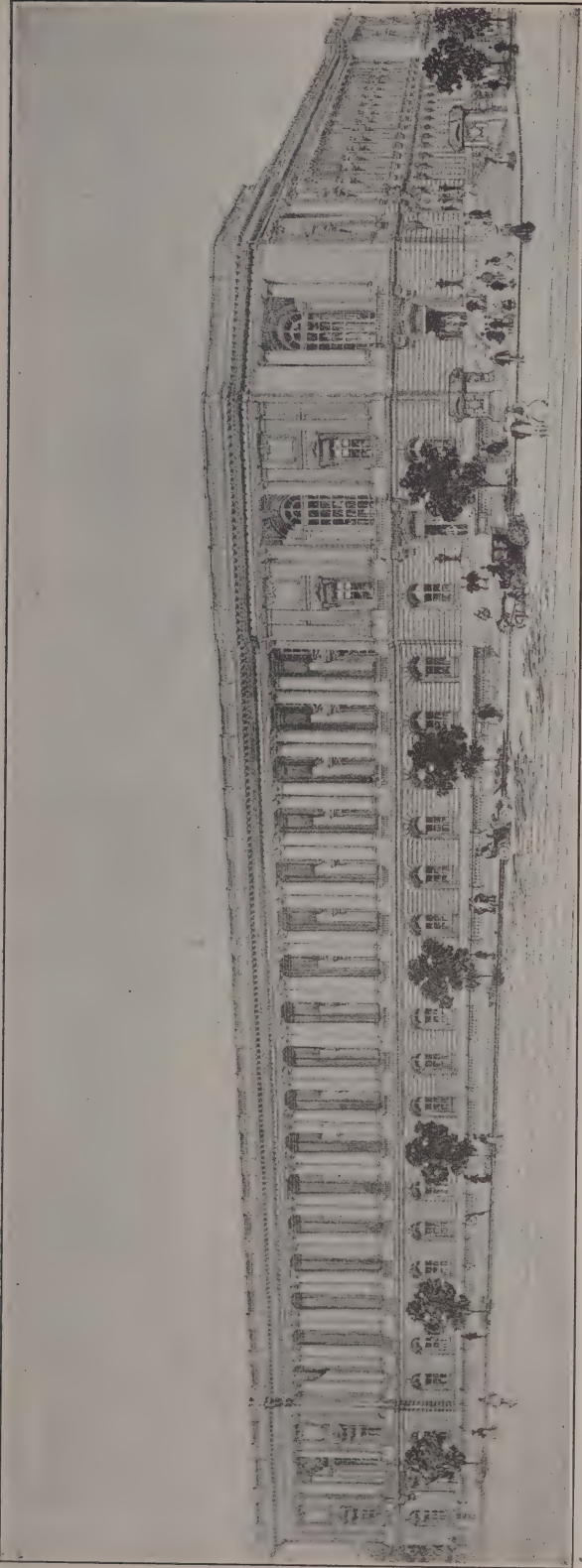
Write today for descriptive circular



## Majestic Furnace & Foundry Co.

Dept. G

HUNTINGTON, INDIANA



Built of  
South Dover Marble

HOUSE OFFICE BUILDING  
Washington, D. C.

Carrere & Hastings  
Consulting Architects

## B. A. & G. N. WILLIAMS

Cut Stone Contractors

Avenue A and 68th Street	::	::	::	::	NEW YORK CITY
--------------------------	----	----	----	----	---------------





THE NEW THEATRE, NEW YORK CITY. Carrere & Hastings, Architects

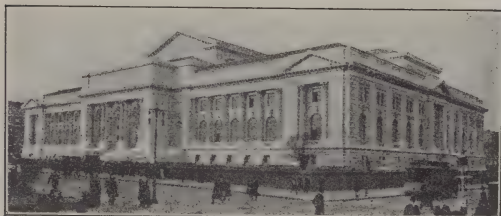
## Roberts Improved System of Filtration

Insures pure, clear, sparkling water, for all uses, regardless of condition of source of water supply. The standard of excellence. Thoroughly endorsed by its many users. List of references, specifications and estimates promptly furnished.

**ROBERTS FILTER MFG. COMPANY, Inc.**

New York Office, Flatiron Building

PHILADELPHIA, PA.



The Most Important Work of Carrere & Hastings  
THE NEW YORK PUBLIC LIBRARY

is equipped with  
several hundreds  
of

### SOSS Invisible Hinges

thus giving to the  
doors the artistic  
effect obtained by  
perfectly smooth  
joints and the ab-  
sence of project-  
ing butts.

Send for booklet or  
see Sweet's, pages 598,  
599.

**Soss Manu-  
facturing Comp'y**

247 Broadway  
New York

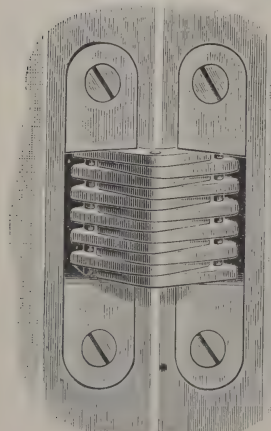
## The Architect Who Reads

the Architectural Record every  
once in awhile gains much--  
but the one who subscribes  
regularly keeps abreast of the  
times in his profession and has  
a record of architectural prog-  
ress for his reference library.  
May we add your name to our  
lists? Yearly subscription rates,  
\$3.00, postage prepaid.

**The  
Architectural Record Co.**

11 East 24th Street

NEW YORK



*Invisible Hinge  
as it appears when door is open*

Decorative **FISCHER & JIROUCH**, Sculptors



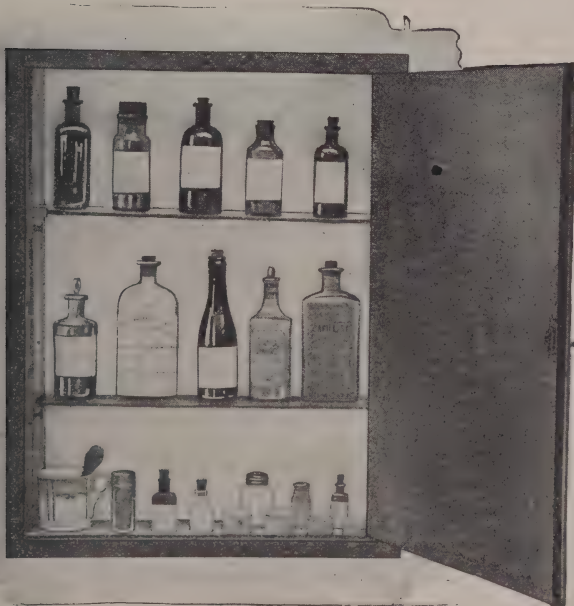
CARTOUCHE IN NEW MAJESTIC THEATRE, EVANSVILLE, IND.  
J. L. WILLS, Architect.

We make a specialty of Architects' Requirements and Designs in all kinds of Plastic Ornamentation. We accord personal attention to our contracts and employ only most skilled workmen.  
Work now in progress: Masonic Temple, Youngstown, Ohio; Theatre at Evansville, Ind.; Theatre at Elyria, Ohio; Atkins Hotel, Knoxville, Tenn.

WE SOLICIT CORRESPONDENCE

FISCHER & JIROUCH, 1008 Scovil Avenue, S. E., Cleveland, Ohio

## Metal Back Medicine Cabinets



The Cabinets are made with a heavy Steel Back, Porcelain Enamelled. The Door and Frame are made in either Brass, Nickel Plated or White Metal (German Silver). Each Cabinet is supplied with our own Special Shelf Supports, which slide on a slotted upright; the Shelf Supports, being equipped with Set Screws, permit the Shelves to be set at any desired height.

We would advise the use of the White Metal for the Frame and Door, also for the Slides and Shelf Supports. This metal retains its White Silver appearance at all times, is easily cleaned and will not wear off like Nickel, or tarnish as Brass or Bronze do.

Completed Cabinets can be seen at our warerooms or at the Exhibition Rooms of the Building Trades Employers Association, No. 30 West 33d St., New York City.

Catalog of Medicine Cabinets on application, or see pages 1382-3, "Sweet's"—1910 edition.

**FRANK H. GRAF MFG. CO., 325 7th Av., cor. 28th St., New York**  
Telephone, 320 Chelsea



# Construction Tabloid Catalogs

*will appear weekly in the  
Manhattan Edition of the Record & Guide  
starting in January*

This department provides for the publication and classification of essential trade information which the buyer must have in order quickly and intelligently to specify and order goods.

The standard method of arrangement used marks a great advance in logical publicity and economical sales promotion.

If you desire to sell goods or services, with the least expense, in the building market of Greater New York, you should publish your condensed catalog in the "Tabloid" department of the Record and Guide.

*Send for Sample Sheets and Full Information*

## THE RECORD & GUIDE CO.

11 East Twenty-fourth St., New York

841 Monadnock Bldg., Chicago  
Bessemer Bldg., Pittsburgh  
603 Chestnut St., Philadelphia

# Pipe Organs

No. 180



The time is at hand when an inferior organ will not be tolerated by any person who is acquainted with the great advance that has been made in the art of organ building.

This Company has been foremost in perfecting tubular and electropneumatic actions, and in inventing many new stops, thereby giving the public a product which is beyond anything ever dreamed of a few years ago.

Our book "L," giving a full explanation of the Austin organ, gladly mailed upon request.

**Austin Organ Company**  
Hartford, Connecticut





CARRIE MEMORIAL CLOCK TOWER, Providence, R. I.

## The E. Howard Clock Co.

Boston New York Chicago

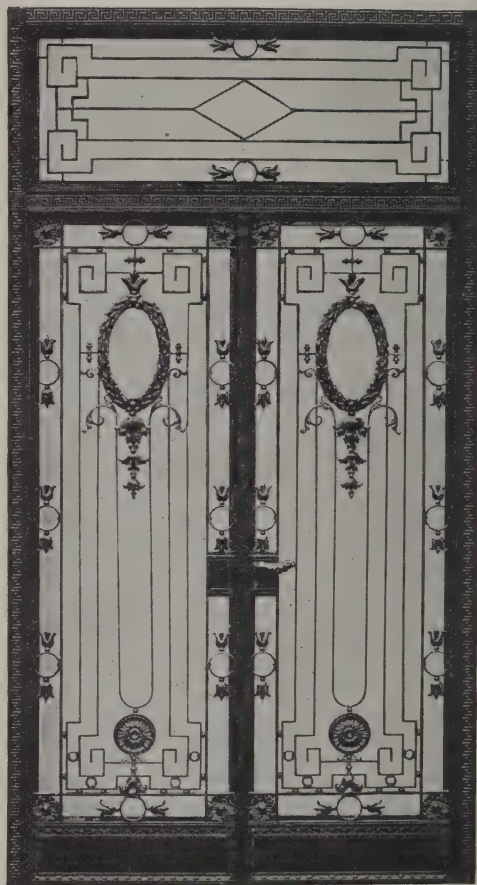
Make a specialty of Tower and Stable Clocks for country estates and can offer a long list of the highest references, from which the few following representative names are selected:

G. F. Baker  
E. C. Converse  
T. M. Davis  
I. Guggenheim  
T. W. Lawson  
C. H. Mackay  
D. G. Reid  
A. G. Vanderbilt  
G. W. Vanderbilt  
Payne Whitney

Howard Gould  
J. R. McLean  
E. F. Searles  
W. K. Vanderbilt  
L. D. Ward  
De Lancey Kane  
E. B. Dane  
F. L. Ames  
Arthur Letts  
Jencks Park, Pawtucket

## Lasar-Letzig Mfg. Co.

ST. LOUIS, U. S. A.



ORNAMENTAL WROT IRON AND GLASS  
FRONT ENTRANCE DOORS

MANUFACTURE TO ORDER

Plain & Ornamental  
Work in Iron, Steel  
Brass and Bronze

ELEVATOR ENCLOSURES AND CABS  
GATES, GRILLES  
RAILINGS, DOORS, METAL LOCKERS  
BANK AND COUNTER SCREENS



STANDARD for the NEW YORK PUBLIC LIBRARY

CARRERE & HASTINGS, Architects



THE GORHAM CO ARCHITECTURAL BRONZE

FIFTH AVENUE NEW YORK

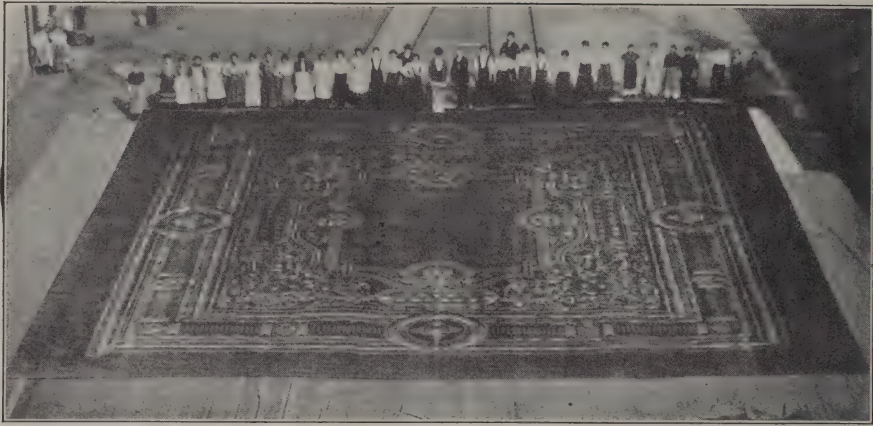
Works at Providence, R. I.



# Rugs of Distinction

Grand Prix, Paris, 1900

Grand Prix, St. Louis, 1904



**T**HE illustration above shows the largest **one piece** hand tufted rug imported. Made in Austria by Bollentin & Thompson for Pottier & Stymus, for the Masonic Temple, New York City. Size, 53 x 60 feet. Contains 7,344,000 knots. Delivered in less than eight weeks from day order was placed.

The choice of the proper floor covering probably has as much to do with the success of a decorative plan as any other single item.

A Rug which harmonizes **absolutely** with the scheme of decoration gives the last touch of distinction to a room—the touch that culture demands.

Our fabrics are the richest and most satisfactory offered today for the discriminating architect and his client. Every piece is made to order, in any size, design or color, in the largest and best mill in the world, thus assuring absolute satisfaction.

The prominent, up to date decorators and dealers in all parts of the country are our exclusive distributors, and will be pleased to show our samples of the various qualities.

You cannot afford to be without the information concerning our goods, as they are the best. We will gladly furnish the name of decorator or dealer nearest you on application, and through whom all orders may be placed.

**Here is a list of a few of the prominent buildings in which our fabrics have been used:**

Chas. M. Schwab Mansion, N. Y. City  
W. H. Crocker, Burlingame, Cal.  
Clarence Mackay, Harbor Hill, Long Island  
John D. Rockefeller, New York City  
Paul Rainey, New York City  
B. F. Yoakum, New York City  
F. W. Clifford, Minneapolis

Executive Office, White House, Wash., D. C.  
Waldorf-Astoria, N. Y. City  
Frankfort Capitol, Frankfort, Ky.  
Masonic Temple, New York City  
La Salle Hotel, Chicago, Ill.  
Plaza Hotel, New York City  
National Park Bank, New York City

Sinton Hotel, Cincinnati

## BOLLENTIN & THOMPSON

34 Union Square East

New York City, N. Y.



THERE was recently held at the Metropolitan Museum of Art, in New York, a most interesting and instructive exhibition of furniture and house furnishings of the eighteenth and nineteenth centuries. The most interesting portion of that exhibition was the section devoted to American Colonial furniture of the nineteenth century, by a designer and cabinetmaker, Duncan Phyfe (1768-1854), of New York City.

Not only for architects, but for the public, which attended in large numbers, this was one of the most important events of its kind ever attempted in New York.

Why? For two reasons:

First—The exhibition contained a greater number of pieces of Colonial furniture and furnishings of real artistic and practical value than have ever been seen by the present generation in any one place.

Second—The exhibition exerted a beneficial influence on the large number of people who went to see it. They could not have left without appreciating the desirability of possessing in their homes furniture and furnishings into the design of which so much thought was put, and on which such honest material and competent labor were employed.

This is the sort of decorative furnishings, floor and wall coverings and furniture we like to build and sell, and these are our mottoes:

*Thoughtful Design, Honest Material and Competent Labor*

The architects and designers of today are as competent to produce designs of merit for present needs as were those of Duncan Phyfe's time for the requirements of a century ago.

We can guarantee the Honest Material and the Competent Labor.

---

*Lord & Taylor*

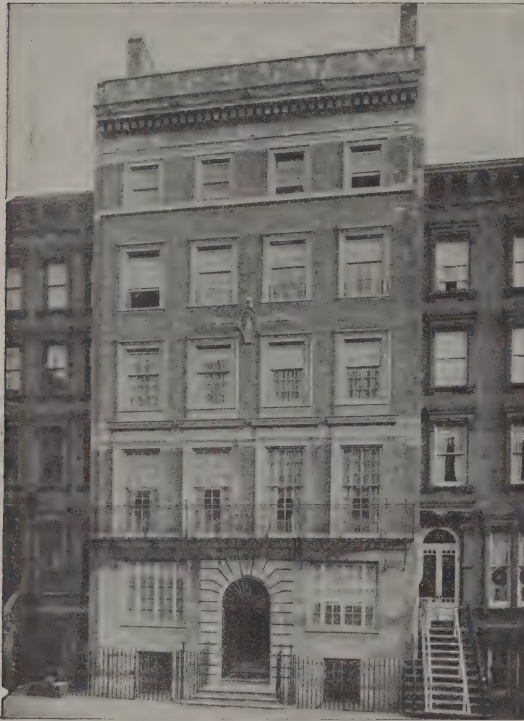
New York  
Broadway and 20th St.;  
Fifth Ave.; 19th St.

Established 1826



Paris, 6 Cité Parades  
Manchester, 9 Mosley St.  
Chemnitz, Germany  
St. Gallen, Switzerland





New York City Residence  
Charles A. Platt, Architect

## The Kelsey Fresh Air System of Heating

Leading architects are specifying the Kelsey system—

Because clients are guaranteed a warm house all over.

Because clumsy, unsightly radiators are not required.

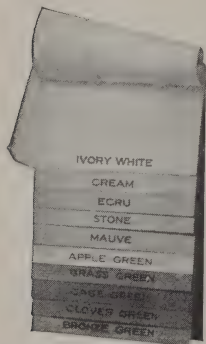
Because no residence, church or school is thoroughly up to date unless fresh air is constantly introduced.

There are several hundred equally strong reasons why you should specify the Kelsey Warm Air Generator. **35,000 in use. Send for booklet.**

### Kelsey Heating Company

Salina Street  
Syracuse, N. Y.

156-158 Fifth Ave.  
New York City



## Get this sample book

See Brenlin, the shade material that is different, wears so much better

It is made in several tones of all colors—one to harmonize with any color scheme or decoration and in Brenlin Duplex, light one side, dark the other. The soft, dull finish adds to the restfulness of your rooms.

It won't fade. Water won't spot it.

All Brenlin has the name perforated in the margin of every yard. Other shades look like Brenlin when they are new; therefore look for the marking **BRENLIN**

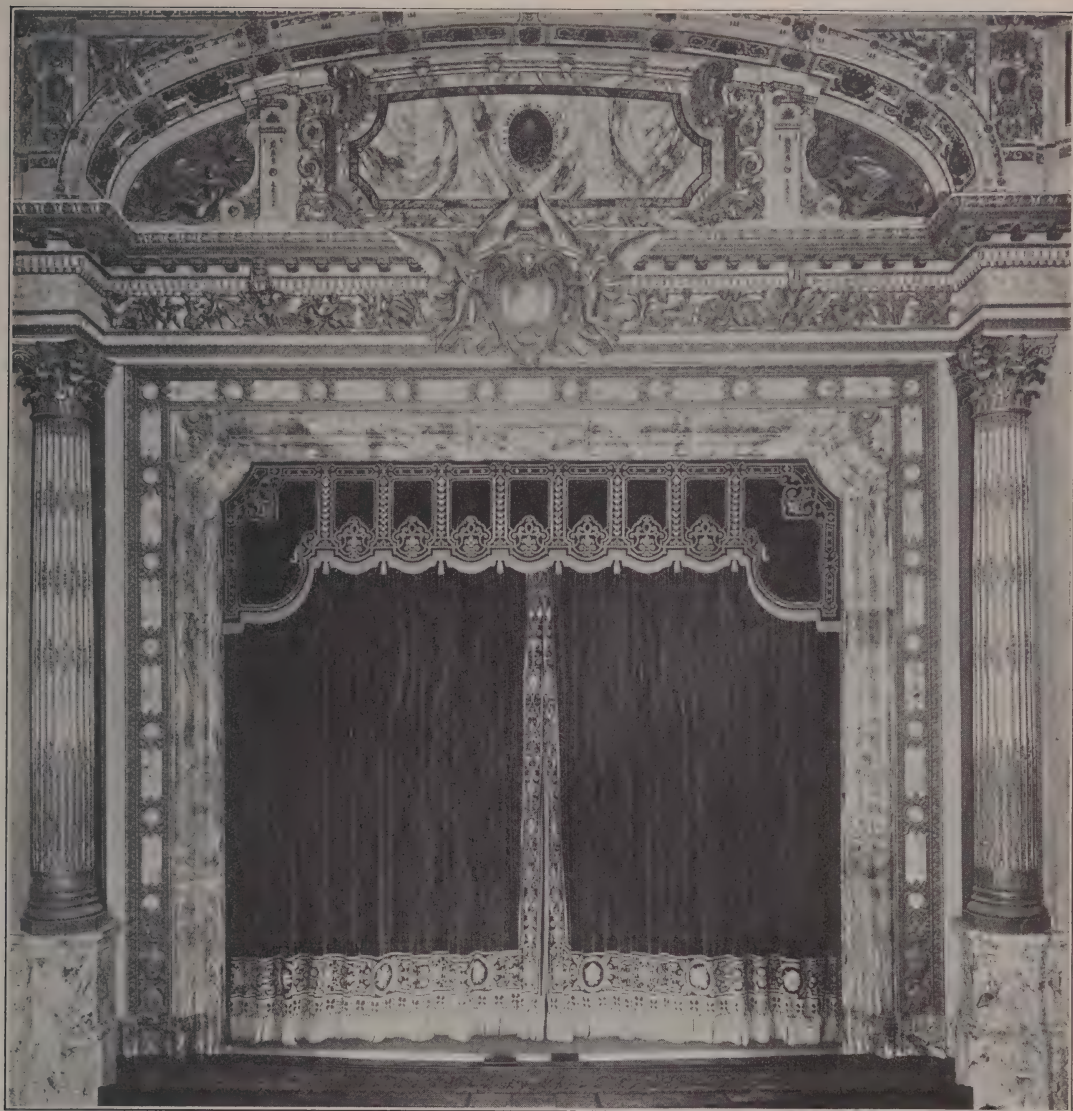
Write today for sample book and name of Brenlin dealer in your city. If no dealer in your town has secured Brenlin, we shall see that you are supplied.

CHAS. W. BRENNEMAN & Co., 2069-2079 Reading Road, Cincinnati

# Brenlin

Trade Mark Registered, United States Patent Office

A Brenlin shade 7 feet long 38 inches wide, complete with best roller, costs \$1.00



Carrere & Hastings, Architects

## New Theatre Stage Curtains

Also Box Curtains

MADE BY

# A. H. Davenport Company

Boston House  
96 and 98 Washington St.

New York  
150 Madison Avenue

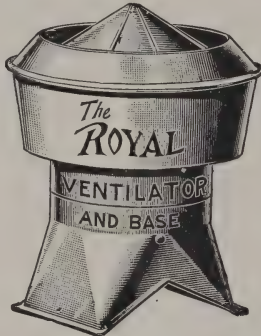


# THE ROYAL VENTILATORS

provide an ever-changing supply of fresh air without cost of operating. Correct principles and careful workmanship have won many specifications for us. Shall we have yours? The "ROYAL" is neater in appearance, will last longer and is advantageously different from all others.

Nine-tenths of all the plans drawn by architects and engineers today do not provide for ANY VENTILATION—and yet we are in receipt of hundreds of letters from owners and even prominent architects saying they did not KNOW the "ROYAL" was so cheap—as contractors tried to change the list price from which there is always a discount of 50 to 85 per cent.

Always write the "ROYAL" for prices if you are in doubt as to the cost—and what you should use.



Ventilator with Base and Damper for Apex or Roof

When foundries like

Tobatta Iron Works, Y. Ilkawa, Japan.  
Reading Iron Works, Reading, Pa.  
Trenton Brass and Machinery Co., Trenton, N. J.

American Car and Foundry Co., St. Louis.  
Frick Company, Waynesboro, Pa.  
Chandler & Price Co., Palmyra, N. Y.  
American Pulley Company, Philadelphia, Pa.

and hundreds like them send us their orders for Royal Ventilators, it is time for you to stop and consider and write us for our new booklet and other information.

We never tire of explaining the little details of construction—our Double Cones, Double Wire Deflectors, Double Standing Ribs, etc., but they are important and you will find them only in the "Royal." Won't you write us for our booklet and prices?

We make "Royal" Ventilators so efficient that they will properly ventilate a building and prevent tuberculosis. Wholesale prices f. o. b. factory.

## WHY

Are single cone ventilators inferior to the Standard Double Cone Royal?

Because it costs less to make them.

WHY?

Because they weigh less.

WHY?

Because there is less material in them.

WHY?

Because they are made to sell cheap and have the smallest possible amount of time and material used in them.

Why are they not as good?

For many reasons:

1. Because they will not last as long.
2. Because they will not exhaust as much air.
3. Because they being flimsy do not possess one-half the stability of the Royal.
4. Because they are cheap looking compared with the Royal.
5. Because no honest test has ever equalled the test of the Royal.

## Partial List of the Hundreds of School Buildings

Girard College, Philadelphia, Pa. (3 42-in. glass top).  
Public School, Nazareth, Pa. (1 54-in.).  
Second and Lebanon Streets School, Philadelphia, Pa. (4 36-in.).  
Henry Horn School, Philadelphia, Pa., (5 42-in.).  
College of Physicians, Philadelphia, Pa. (9 36-in., 42-in., 48-in. copper).  
St. Vincent's Seminary, Germantown, Philadelphia, Pa. (5 42-in.).  
High School, West Seneca, N. Y. (1 16-in., 2 28-in.).  
Ridge Street School, West Seneca, N. Y. (1 30-in.).  
Public School, West Seneca, N. Y. (1 28-in.).  
Public School Building, Griensville, N. Y. (1 34-in.).  
Public School Building, Middleville, N. Y. (1 24-in.).  
Public School Building, Huntington, N. Y. (1 40-in.).  
Public School Building, Whitesville, N. Y. (1 40-in.).  
Public School Building, Fairport, N. Y., (1 42-in.).  
Norwood School, Lynbrook, N. Y. (1 44-in.).

School Building, Sayesville, N. Y. (1 54-in.).  
School Bldg., Scarsdale, N. Y. (1 72-in.).  
School Bldg., Patchogue, N. Y. (1 48-in.).  
School Bldg., Dispatch, N. Y. (1 32-in.).  
School Building, Poughkeepsie, N. Y. (1 42-in., 1 52-in., 1 48-in.).  
Rahway Reformatory, Rahway, N. J. (5 36-in.).  
Public School Building, Andover, N. Y. (1 24-in.).  
Public School Bldg., Yonkers, N. Y.  
William St. Public School, Lockport, N. Y. (1 36-in.).  
East Rome School, Rome, N. Y. (1 14-in.).  
James St. School, Rome, N. Y. (1 14-in.).  
Liberty St. School, Rome, N. Y. (1 14-in.).  
Public School Building, Spring Valley, N. Y. (1 44-in., 2 30-in.).

High School, Saratoga Springs, N. Y. (2 44-in.).  
Owego School, Owego, N. Y. (1 90-in.).  
High School, Northport, N. Y. (1 28-in.).  
Oakville School, Peekskill, N. Y. (1 72-in., 2 24-in.).  
Southside Grammar School, Jamestown, N. Y. (2 16-in.).  
Public School, East Hampton, N. Y.  
Pub. School, Little Falls, N. Y. (2 24-in.).  
High School, Wellesville, N. Y. (1 32-in.).  
St. Mary's Parochial School, Rome, N. Y.  
New Public School, Palmyra, N. Y. (1 44-in.).  
Public School Bldgs., N. Y. City, N. Y.  
Public School, Odessa, N. Y. (1 30-in.).  
New High School, Mamaroneck, N. Y.  
Holy Name Parochial School, Philadelphia, Pa., (5 42-in.).  
Immaculate Conception School, Germantown, Philadelphia, Pa. (1 18-in., 1 24-in., 3 60-in.).

## ROYAL VENTILA

Main Office and Factory, 417

# THE ROYAL WAY

These are the Points that Count



Double Cones.  
Least resistance to natural  
and forced draft.  
Scientific Construction  
Deflectors  
The "Know How" to do it right  
Always Ventilating.

Pointed Bottom Cones.  
Pointed Radiating Ribs.  
Superiority Over All Others.  
Satisfied Customers  
Prompt Shipments.

We Never Tire of Explaining  
We devote all our energy to making a complete line of  
**High Grade Royal Ventilators**  
made in every size and shape to suit every con-  
dition; Round, Square, Rectangular, Glass and  
Metal Top; of Galvanized Steel, Charcoal Iron,  
and Cold Rolled Copper.

## GUARANTEE

The "Royal" Patented  
July, 1904  
Manufactured by  
**Royal Ventilator &  
Manufacturing Co.**  
Philadelphia, Pa.  
**JOSEPH C. HENVIS, Patentee**

We guarantee that every ventilator bearing this pat-  
ent plate, as herein shown, is made in exact accord-  
ance with the following specifications:

The Royal Ventilators are full size.

The Royal Ventilators are the most efficient made.

The Royal Ventilators have the largest area of ex-  
haust.

The Royal Ventilators are uniform and regular (as  
we do not employ boys or helpers, only first-class me-  
chanics).

These are the qualities for which you pay.

Many other Philadelphia school buildings would use the Royal but for the fact the Board of Education allows the  
contractor to use the cheapest ventilator that can be purchased. We ship all over the world: Write us for 1910  
Booklet and Price List.

## Ventilated with the "ROYAL" Ventilators

University of Pennsylvania, Phila., Pa.  
School Bldg., Montrose, Pa. (2 27-in.)  
Logan School, Phila., Pa. (2 54-in.)  
Forrest School, Phila., Pa. (2 36-in.)  
Whitehall School, Philadelphia, Pa.  
(2 50-in. and 2 49-in.)  
School Building, Crydersville, N. Y.  
(2 36-in.)  
School Bldg., Brocton, N.Y. (1 46-in.)  
School Building, Newark, N. J. (2  
16-in., 1 54-in.)  
Public School Bldg., Passaic, N. J.  
Public School Building, Montclair, N.  
J. (2 60-in.)  
School Building, Orange, N. J. (1  
61-in. x 56-in.)  
School Bldg., S. Orange, N. J. (3 54-in.)  
13th Avenue School, Newark, N. J. (5  
54-in., 1 30-in.)  
Public School, Butler, N. J. (2 60-in.)  
High School, Dover, N. J. (1 72-in.  
copper).

School Building, St. Paul, Minn. (2  
96-in., 1 84-in., 2 30-in.)  
Hawthorne St. School, Newark, N. J.  
(2 18-in. 1 48-in., 2 54-in., 1 60-in.)  
Warren St. School, Newark, N. J.  
(1 18-in., 3 42-in., 2 32-in., 1 48-in.)  
High School, Montclair, N. J. (4 52-  
in. x 16-in., rectangular).  
St. Mary's School, Garden City, N. J.  
(1 60-in. x 60-in.)  
Eastern School, East Orange, N. J. (2  
54-in. x 80-in., 1 24-in.)  
Nassau School, East Orange, N. J. (2  
26-in. x 48-in.)  
Washington School, West Orange, N.  
J. (60-in. x 60-in.)  
Columbia School, South Orange, N.  
J. (2 48-in. and 1 36-in.)  
West Side School, Atlantic City, N.  
J. (2 48-in.)  
Indiana Avenue School, Atlantic City,  
N. J. (2 54-in.)

New Jersey Avenue School, Atlantic  
City, N. J. (2 54-in., 2 48-in.)  
No. 1 School, Long Branch, N. J. (1  
48-in.)  
No. 3 School, Long Branch, N. J. (1  
48-in.)  
Public School Building, Algar, Ohio,  
(2 36-in.)  
School Bldg., Freemont, Ohio, (2 30-in.)  
School Bldg., Bradford, Ohio, (2 32-in.)  
School Bldg., Greenville, Ohio, (2 32-in.)  
School Bldg., Sandusky, Ohio, (4 42-in.)  
Stamford School, Stamford, Conn. (2  
36-in. x 72-in. rectangular).  
School Building, Ford City, Pa. (2  
22-in., 2 60-in., 2 62-in.)  
Wm. Penn High School for Girls, Phila.,  
Pa. (1 78-in., 3 72-in., 3 66-in., 1 50-  
in., 5 48-in., 2 30-in., 4 24-in. copper).  
J. S. Hart Public School, Phila., Pa.  
(1 48-in., 1 54-in., 1 60-in., 1 72-in.)  
Belview School, Philadelphia, Pa., (1  
48-in., 1 38-in., 3 40-in., 1 30-in.)  
Union Free School Dist. No. 4, Smith-  
ville, L. I. (2 40-in. and 1 54-in.)  
Thomas Baptist Orphanage, Thomas-  
ville, N. C. (1 30-in.)

**TOR COMPANY**  
Locust St., Philadelphia, Pa.

AND HUNDREDS OF OTHERS.



# WHY NOT?

Take advantage of modern methods and obtain reliable and prompt information regarding all building operations by using

# DODGE REPORTS

If you could know in advance whenever a contract in your line is to be let, you would take advantage of the opportunity.

## WE DO NOT GUESS

We can furnish you with daily accurate information in regard to all Building and Engineering enterprises contemplated or in course of construction which may require the use of products or services of all parties engaged in construction, equipment, decorating and furnishing.

Our system enables us to select only such matter as will interest YOU.

---

## THE F. W. DODGE COMPANY

11 East Twenty-fourth Street, New York

BOSTON

114 Federal Street

PHILADELPHIA

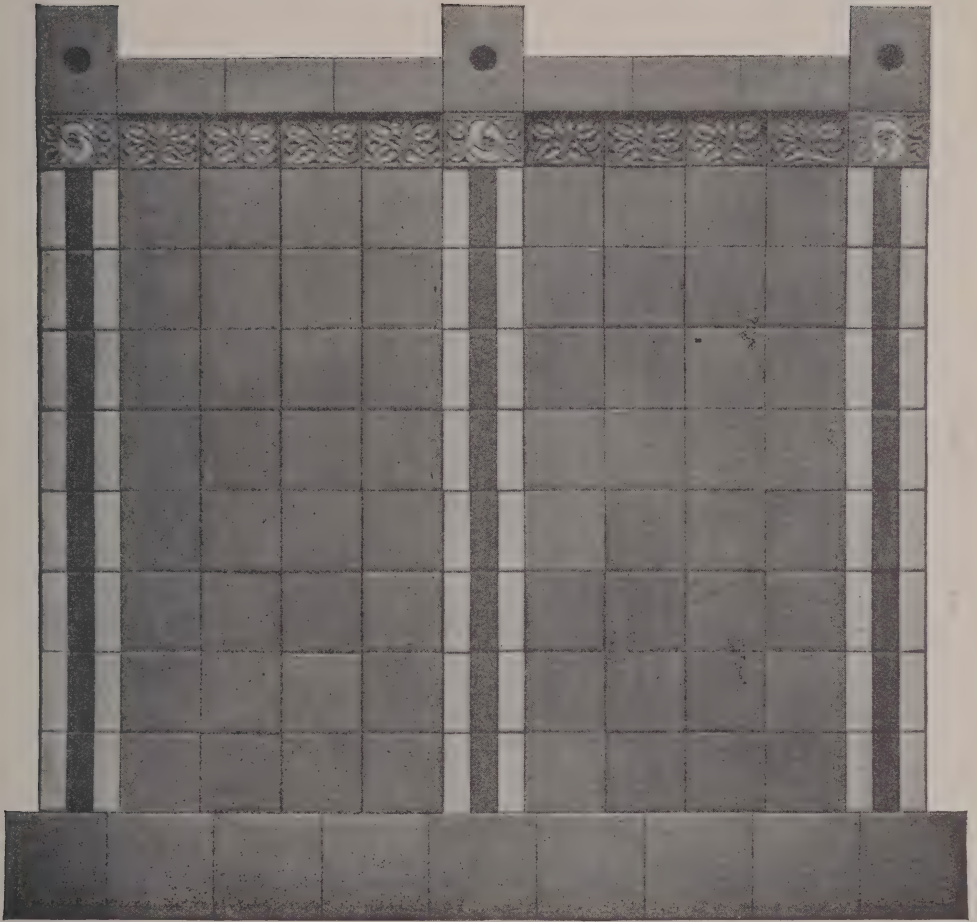
603 Chestnut Street

PITTSBURGH

Westinghouse Building

CHICAGO

Monadnock Building



Section of Wainscot in Plain and Decorative Rookwood Faience Tiles. The soft matt textures of the Rookwood Glazes offer effects entirely unlike the cold hardness of usual tile finish and are not excelled in decorative richness by the finest colored marbles. : : : :

## The Rookwood Pottery Company

CINCINNATI

Eastern Office, No. 1 Madison Ave., New York



# JUST ONE



CARNEGIE INSTITUTE OF WASHINGTON, WASHINGTON, D. C.

Architects  
Carrere & Hastings  
New York

Cut Stone Contractors  
E. F. Giberson & Co.,  
Bedford, Ind.

Of the buildings in which Carrere  
& Hastings have used "Old Hoosier  
Blue" Bedford Stone we are illustrating  
the Carnegie Institute of Washington,  
D. C.

# EXAMPLE

As an example of the rare dignity that is secured in executing perfect classic design in this aristocrat among building materials perhaps no happier selection could be made.

The deep blue quarry color of "Old Hoosier Blue" weathers to the light steel grey of the wonderful "Old Hoosier" texture, and architects who have a public building of classic design will be repaid to see the effect attained in this Washington building.

Write the nearest office for samples and standard, non-fluctuating price of this even colored, close grained, sound, weatherproof stone from the "Old Hoosier" Quarry.

---

---

## THE BEDFORD QUARRIES COMPANY

204 Dearborn St.

818 Euclid Ave.

No. 1 Madison Ave.

**CHICAGO**

**CLEVELAND**

**NEW YORK**





THE NEW THEATRE, NEW YORK CITY  
Carrere & Hastings, Architects

# The Roebling System of Fire-Proofing is the Recognized Standard

---

## The Roebling Construction Co.

Main Office: FULLER BLDG., TWENTY-THIRD STREET and  
BROADWAY, NEW YORK. Works: TRENTON, NEW JERSEY

---

### BRANCHES :

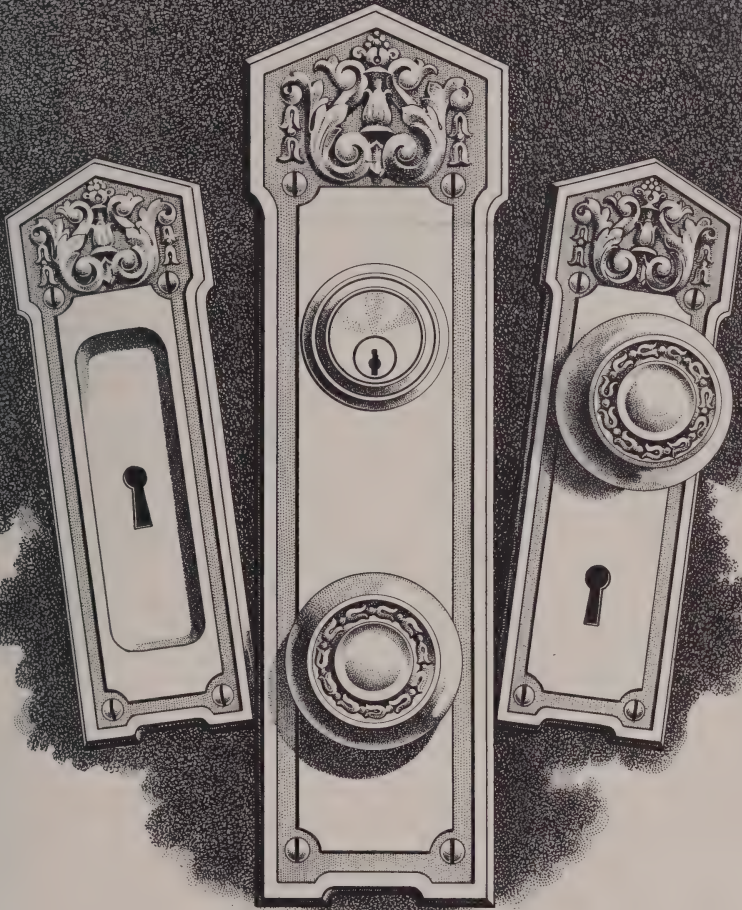
BOSTON

PHILADELPHIA

BUFFALO

CHICAGO

SAN FRANCISCO



Champlain  
A NEW RUSSWIN DESIGN

FURNISHED IN WROUGHT BRONZE

• RUSSELL & ERWIN • MFG. CO. •  
• CONTRACT • AND • ART • DEPARTMENT •  
• 105 WEST FORTIETH STREET •  
• NEW • YORK •

*Works at New Britain, Conn.*





# "Target and Arrow" Tin Roofs

on the Buildings of the American Pad  
& Textile Company, Greenfield, Ohio

This manufacturing concern has adopted "TARGET AND ARROW" roofing tin as a standard for use on all their buildings.

The buildings shown in the illustrations were covered a few years ago with tar and gravel roofs of the best type. These roofs proved unsatisfactory, and were entirely removed in the Fall of 1909, "TARGET AND ARROW" roofing tin being used to replace them.

Architects and property owners are profiting by the experience of others with cheap, makeshift roofing materials. Many of the largest roofing contracts recently have been for "TARGET AND ARROW" tin for use on factory buildings, to replace roofings that have proved unsatisfactory.

Stocks of this old established brand of roofing tin are carried at important distributing points throughout the United States. Names and addresses of our numerous agencies supplied upon request. Full information regarding sizes, thickness, covering capacity, etc., and standard tin-roofing specifications for architects' use, will be furnished upon request.

## N. & G. TAYLOR COMPANY

1810

THE OLD PHILADELPHIA TIN PLATE HOUSE

One Hundredth Anniversary

1910





**Asbestos "Century" Shingle Roof--Bessemer High School, Bessemer, Mich.  
D. Fred Charlton, Marquette, Mich., Architect ; A. H. Krieger Co.,  
Houghton, Mich., Roofing Contractors**

## Asbestos "Century" Shingles

**"The Roof that Outlives the Building"**

The house owner has to depend on **your** knowledge in choosing his roofing—and he is especially open to suggestions that affect his pocketbook.

Asbestos "Century" Shingles protect the house absolutely—are impervious to weather, proof against fire, free from accidental breakage. They are the most attractive roofing made. They cost no more to lay than any other roofing regarded as first class and nothing afterward for painting or repairs.

Can there be any doubt as to what roofing you shall recommend?


Asbestos "Century" Shingles are dense and elastic shingle-like sheets of asbestos fibro-cement. Made in three colors—Newport Gray (silver gray), Slate (blue black) and Indian Red, in numerous shapes and several sizes. Ask your Roofer for new quotations. Write for Booklet "Concrete 1910."

### **The Keasbey & Mattison Co.**

**FACTORS**

**Ambler, Pennsylvania**



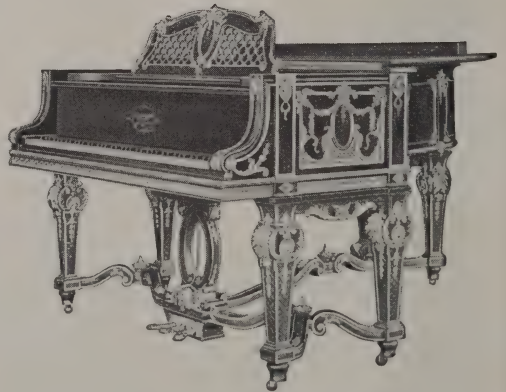


IN the designing and manufacture of Period and Art cases to harmonize with any plan of architecture or decoration, Steinway & Sons are the recognized leaders, as in all other departments of piano making—a distinction they have enjoyed for three generations. Every

# STEINWAY

## ART PIANO

is a true representation of its respective period—a veritable gem of beauty and perfection. A visit to the Steinway Studios will reveal that, in these masterpieces of pianocraft, music and decorative art are so deftly blended that they at once command the admiration and praise of architect, artist and connoisseur.



### STEINWAY & SONS

Steinway Hall

107-109 East 14th Street, New York

(Subway Express Station at the Door)

*Steinway Parlor Grand Piano in the period of Louis XIV, gilt and enameled*

*The*  
**GEO. RACKLE & SONS**  
**COMPANY**  
**ARTSTONE**



HOME OF F. W. STECKER, CLEVELAND, O.—ARTSTONE CONSTRUCTION.

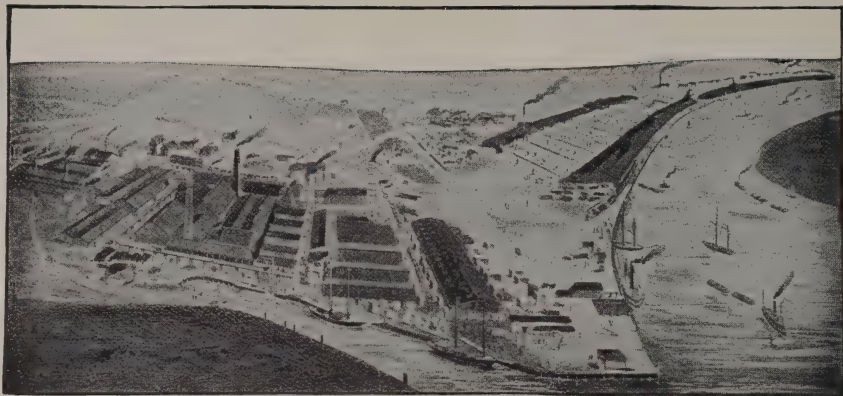
**A**RTSTONE is a manufactured stone used for building decorations, structural block stone, church window frames, fountains, vases, etc. It is manufactured from the best non-staining Portland cements and aggregates selected to produce the most beautiful colors and textures. Forty-five years' experience has taught us how to make this stone, which we can thoroughly guarantee. The colors and textures of this material are more uniform and pleasing to the eye than that of natural stone. The snappy and crisp effects of clay modeling are present in the execution.

WE GUARANTEE NO DISCOLORATION AND MINIMUM  
OF ABSORPTION :: PLEASE SEND FOR SAMPLES :: ALSO  
REFER TO OUR PAGES 152-153 OF "SWEET'S" :: :: ::

The most beautiful architectural effects can be produced by us at a great reduction in cost over that of the laborious method of cutting and carving of natural stone.

*The Geo. Rackle & Sons Co., Cleveland, Ohio*





WORKS AT SAYREVILLE, ON THE RARITAN RIVER, NEW JERSEY

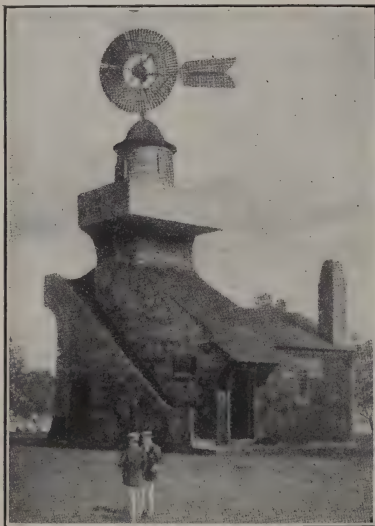
## SAYRE & FISHER COMPANY

*Manufacturers of* FINE PRESSED FRONT BRICK OF VARIOUS SHADES, PLAIN AND MOULDED SUPERIOR ENAMELED BRICK, SEVERAL COLORS • HARD BUILDING BRICK, FIRE BRICK AND HOLLOW BRICK

SEE OUR CATALOGUE IN "SWEET'S INDEX"

OFFICE, 261 BROADWAY, cor. Warren St., NEW YORK

## The Corcoran Wind Mill



IT IS PERFECTLY NOISELESS

Nearly Fifty years' practical experience in the manufacture, erection and sale of Wind Mills as a specialty on the Atlantic Coast, and for shipment to various countries all over the world, have rendered us conversant with the requisites a Wind Mill should possess for general utility.

Our present Mill is the result of incessant practical experiment and scientific investigation, coupled with inventive genius, aiming to develop and produce the very best method for the application of wind power as a labor-saving agent.

There is fifty per cent. more wrought iron and steel, and ten per cent. more malleable iron in its construction than in that of any other mill now in the market, and it is acknowledged by skilled mechanics to be the only Wind Mill constructed on true mechanical principles.

Send for Catalogue M

**A. J. CORCORAN, Inc.**

New York Office, No. 7 John St.  
Factory, Jersey City, N. J.



The Murray Hill Building and a part of the Wheeler Building, on West 38th Street, New York. Architects, Starrett and Van Vleck

¶ These buildings are examples of the best class of loft buildings, and afford excellent opportunities for the proper use of Architectural Terra Cotta. The entire facade of each building, above the third story, is of white mat glaze Terra Cotta.

¶ The contrast between the absorbent stone of the first stories and the impervious Terra Cotta superstructures will become more marked in time.

¶ Every shower will clean glazed Terra Cotta; stone must be sand-blasted.

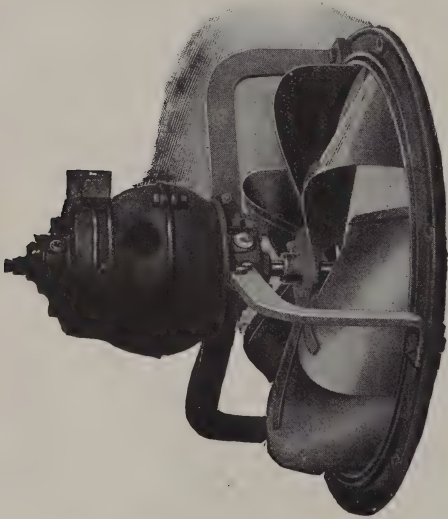
***Atlantic Terra Cotta Company***

***1170 Broadway, New York***



# The Positive Grasp on the Air

is what has led to the  
immense success of



## THE BLACKMAN VENTILATOR

and this success has led architects  
to specify over 3550 of the 9281  
in use at this date.

218 are installed in the following buildings:

Hotel Astor, N. Y.	Rockefeller Inst. (3)
Carnegie Library, Pittsburg	Hebrew Infant Asylum (5)
Grand Central Post Office (5)	Brooklyn Acad. of Music (10)
Lotus Club (4)	Met. Life Bldgs. (6)
Bellevue Hospital (New) (3)	N. Y. City Public Library (16)
National City Bank (6)	Plaza Hotel (5)
Metropolitan Opera House (4)	Hanover National Bank (4)
Union Theological Seminary (3)	New Theatre, N. Y.
Union Dime Savings Bank (3)	St. Regis Hotel, N. Y.
National Park Bank (3)	Waldorf-Astoria Hotel, New York.

## HOWARD & MORSE

45 A Fulton Street, New York

Catalog and co-operative advice on request.



*Duplex Studio Apartments, 901 Lexington Ave., N. Y.  
Rossiter & Wright, Architects*

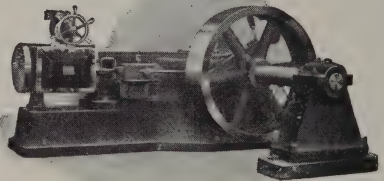
The Electrical Equipment for the modern apartment house has proved to be one of the most important features for the successful building operation. We have made a special study of the situation, and feel that we are in a position to assist the architect and owner.

*Why not write us today for particulars?*

**DENNIS G. BRUSSEL**

Electrical Construction and Engineering

Tel. { 7220 } Madison Square 15 W. 29th St., New York  
      { 7221 }



R  
I  
D  
G  
W  
A  
Y

### ENGINES

Side and Center Crank  
Single and Four Valve  
Simple and Compound

### DYNAMOS

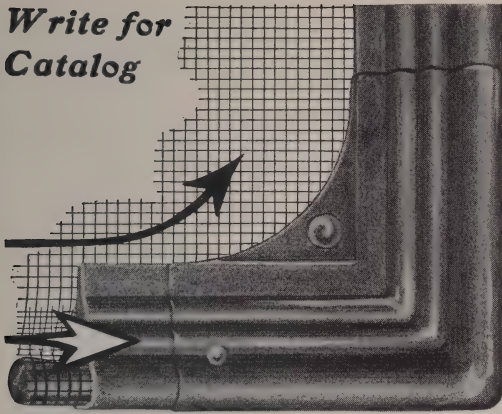
Belted and Direct  
Connected

R  
I  
D  
G  
W  
A  
Y

Bulletins—Collection R  
sent upon request

**RIDGWAY DYNAMO & ENGINE CO.**  
RIDGWAY, PA.

Write for  
Catalog



# Higgin All-Metal Screens

**F**RAMES of *steel* or *copper*. Only  $\frac{9}{16}$  inch thick. Enamel or dull finish. Trim, neat, inconspicuous, *beautiful*! Channels metal too. *Nothing* to warp, split, swell, shrink, or rot. *No cause* for sticking. Screens fit perfectly *always*.

Netting of *solid* bronze wire. Not painted because it *needs no paint*. *Can't* rust. *Never* has to be painted. *Always* looks like new. Fastened by our patented inside round frame. Held uniformly tight but not bent sharply at any point. No breaking.

Offices in all large cities. Measurements taken, screens delivered and fitted *anywhere*. Complete information gladly sent to architects and owners. Write today.

## Higgin All-Metal Weather Strip



**F**ITS into the sash—not against it. Parts around window and window frame *dovetail*. Also those between the two sashes. No matter how window frame and sash may change afterwards through warping or shrinking, weather strip remains *air-tight*. *Never* wears through because edges of metal *don't touch*. One part is zinc; other bronze. *No* friction. Window slides in rounded metal part; not in tight angle. *Never* sticks. Write for circular.

THE HIGGIN MFG. CO.

506-528 Washington Ave.

Newport, Ky.

## For Canvas Roofs.



SPECIFY THE SCIENTIFICALLY PREPARED

### BAYONNE ROOF AND DECK CLOTH

Easiest to Lay      Lasts Longest  
REQUIRES BUT ONE COAT OF  
PAINT

The process permeates the fabric  
and preserves the fibre  
BEST FOR PIAZZA ROOFS AND  
PORCH FLOORS

SAMPLES  
are, of course,  
yours for the asking.  
Send for BOOK R-6  
and satisfy your-  
self of the wear-  
ing quality.

John Boyle & Co., Inc.  
112-114 Duane Street      70-72 Reade Street  
New York  
202-4 Market Street, St. Louis

The Standard Brand of White Canvas

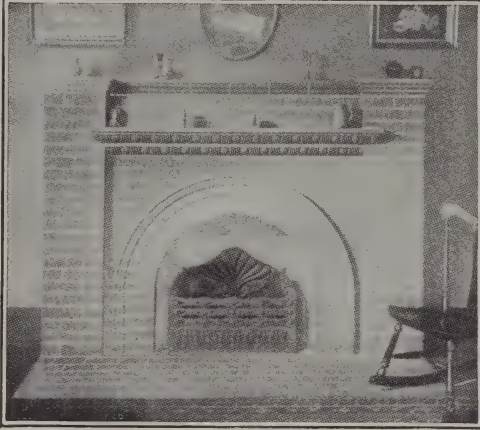
GULF STREAM  
ROOFING  
CANVAS

All widths—Any quantity—All weights  
JOHN BOYLE & CO.'S Awning Stripes  
have been the standard for 50 years.



# MANTELS for HOMES

IN ANY DESIGN, COLOR OR TEXTURE

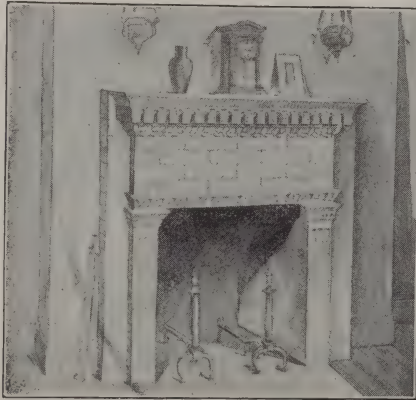


## Architects

*We make a specialty of building mantels for homes, and solicit opportunities to estimate from your designs.*

*Material, workmanship  
and price  
warranted the best.*

**American Home Fireplace Company**  
MASONIC TEMPLE, ZANESVILLE, OHIO



## Ornamental Brick Mantels

Ours are Cheerful, Artistic, Healthful,  
Durable and not too costly. Easily  
set by local masons with our plans.

**There is No Other Kind So Good**

When you build or remodel,  
send for our Illustrated Catalog.

**PHILA. & BOSTON FACE BRICK CO.**

Dept. A

Office and Showroom, 165 MILK ST., BOSTON, MASS.

## The Architect Who Reads

the Architectural Record every  
once in awhile gains much—  
but the one who subscribes  
regularly keeps abreast of the  
times in his profession and has  
a record of architectural prog-  
ress for his reference library.  
May we add your name to our  
lists? Yearly subscription rates,  
\$3.00, postage prepaid.

**The  
Architectural Record Co.**

**11 East 24th Street**

**NEW YORK**

# "Enameled Brick for Exteriors"

This is the name of a handsome illustrated Bulletin, 10" x 14", which is fresh from the press.

The use of our perfect enameled brick in many of our finest modern buildings is shown in detail.

"Plunge Bath Construction" is another good booklet.

These Bulletins contain many suggestions of value to any architect or builder.

They are free for the asking.

Send for copies now.

THE AMERICAN  
ENAMELED BRICK &  
TILE CO.

ONE MADISON AVENUE  
NEW YORK, N. Y.

Agents in 65 principal cities

See our catalog on pages 101-107 "Sweet's" Catalog, 1910



is distinctive in texture, color, and effect.

"Tapestry Brick" is a trade mark registered in the United States Patent Office.

No manufacturer or dealer, except those handling our brick, has a right to use the word "Tapestry" in connection with brick.

Ignorant or unscrupulous dealers sometimes offer their products as "Tapestry."

This is misleading to the architect and his client, and is "unfair" as well as illegal.

We have recently been obliged to bring suit against two parties for infringement.

The United States Circuit Courts have upheld our trade marks and copyrights and have issued injunctions against the infringers of the most sweeping character, thereby establishing the legal status of our claims.

Architects and contractors to whom any brick except ours is offered as "Tapestry" will confer a great favor on us by reporting the same in order that we may take the proper steps to prevent further misrepresentation and infringement.

**There is only one "Tapestry  
Brick"—the name is branded  
on each brick.**

**FISKE & COMPANY INC.**  
**FACE BRICKS) ESTABLISHED IN 1864**  
**IRE BRICKS)**

Sole Manufacturers of "Tapestry Brick"  
Designers and Promoters of

**ARTISTIC BRICKWORK**

1773 Flatiron Building

New York



## The Thousands Who Have Used Cabot's Shingle Stains

have not done so haphazard. They have investigated, calculated—and adopted. They have got beautiful coloring effects, with a depth and richness impossible in paint, and at half the cost—50% cheaper than paint.

*Investigation costs a postal card request for samples and catalogue.*

**Samuel Cabot, Inc.,** Sole Mfrs., **BOSTON, MASS.**  
1133 Broadway, N. Y. 350 Dearborn Ave., CHICAGO  
*Agents at all Central Points.*



*Hunt & Grey, Architects, Los Angeles*



### Paint Reasoning

If finely ground white lead and water are mixed to a paste and pure linseed oil is poured into this mixture, the linseed oil will drive out all the water.

If the linseed oil will drive out water from white lead, what chance has rain or snow or other moisture of penetrating a film made of white lead and linseed oil?

The Dutch Boy Painter trademark is a guaranty of pure white lead.

### National Lead Company

New York Boston Buffalo Chicago  
Cincinnati Cleveland St. Louis  
(John T. Lewis & Bros. Co., Philadelphia)  
(National Lead & Oil Co., Pittsburgh)



### I. X. L. No. 1

(for varnishing interior woodwork)  
and

### I. X. L. Floor Finish

carry this guarantee on every can:

#### We Guarantee

these varnishes as well-aged and made of nothing but hard fossil gums of superior grade, finest oil of special refining and pure spirits of turpentine.  
No Rosin. No Substitutes.

They are made for the architect who wants the very best obtainable listed at \$3.25 per gallon. On account of elasticity and freedom of working they cover the greatest amount of surface, and therefore, are the most economical.

*Artistic set of finished panels on request.*

### EDWARD SMITH & CO.

Varnish Makers for 83 Years

West Ave., 6th and 7th Sts., Long Island City  
P. O. Box 1780, New York City  
Western Branch, 3532-34 S. Morgan St., Chicago



## Willson's Building Directories

THE ORIGINAL AND STANDARD  
CHANGEABLE and ALPHABETICAL

Only directory that can be kept alphabetically correct and up to date in every particular. Cheapest, neatest and most convenient. Letters uniform, correctly spaced, and every name on alignment.

Adopted by the most prominent buildings

Catalogue and full particulars sent on application.

**THE TABLET AND TICKET COMPANY**  
Chicago New York San Francisco, Cal.



**Highest  
in Price  
and  
Well  
Worth It**

The wide specification use of Linduro by prominent architects where particular care is requisite, or where conditions are especially trying, proves the indisputable quality of this highest grade as well as highest priced enamel. Yet, figured by *the job*,

# LINDURO

**is the most  
economical of enamels**

But what is more interesting to the architect is the matchless texture he gets, not the first week only, but years after the "good enough" enamel has lost lustre, discolored and "crazed."

The delicate old ivory, rich eggshell and lustrous white Linduro finishes, preserve each their true characteristics almost beyond the reach of time and wear.

Write for test boards and sample panels, also testimony of those who have tried Linduro.

For details of specifications, see Sweet's Index, pages 1332-3.

**Lowe Brothers**  
High Standard  
Liquid Paint

**The Lowe Brothers Company**

Makers of "High Standard" Paint  
and Little Blue Flag Varnish

452 Third Street, Dayton, O.

Boston New York Chicago Kansas City

## GLIDDEN'S SUPERIOR WHITE ENAMEL

Is the finest quality of White Enamel that can be made. Dries quickly with a beautiful glossy surface, that retains its beauty through exposure and wear, and does not turn yellow. It is easily kept clean and is not affected by repeated washing. It is intended for use on old varnished interior wood-work, and can be used over old varnished and painted surfaces with most excellent results. Can be rubbed to a dull finish.



**Used by the Best Painters Everywhere  
List Price, \$5 per Gallon**

We will appreciate your specification of this material, and we agree to follow up the work to insure its use.

We refer you to Sweet's, pages 1324-1325.

**THE GLIDDEN VARNISH COMPANY**  
Makers of High Grade Varnishes for all purposes  
Glidden Bldg., Cleveland, Ohio

# GLIDDEN'S

GREEN LABEL VARNISHES

## FOX'S



**FOR TINTING AND  
DECORATING  
Walls and Ceilings**

**WHITE : TINTS : FRESCO COLORS**

**Beautiful Water Color Effects**

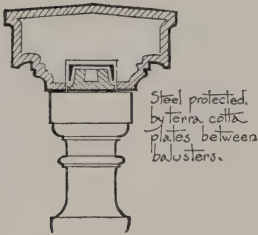
**M. EWING FOX & CO.**

MANUFACTURERS

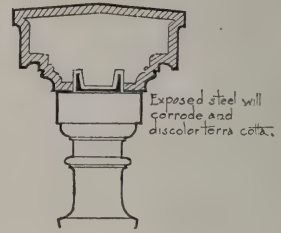
New York Chicago



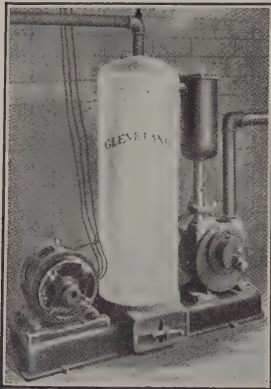
# HOW TO DETAIL TERRA COTTA



Fifty other examples of good and bad terra cotta construction will be found on pages 131-137 Sweet's Index Any architect's office



THE  
NORTHWESTERN  
TERRA COTTA  
COMPANY



## The "Cleveland"

Direct  
from the  
Factory

SIMPLE TO HANDLE  
EASILY INSTALLED  
ECONOMICAL TO MAINTAIN

All AIR disturbed in cleaning is FOUL AIR, and should be removed with the DIRT. Our vacuum cleaning system carries off and disposes of all DIRT, DUST and FOUL AIR.

A device that does not remove all Foul Air and Unclean Substances is only doing half its work, and does not accomplish the fundamental purpose.

The owner of a "CLEVELAND" has perfect sanitary conditions. Let us know your requirements. AGENTS WANTED.

The Cleveland Vacuum Machinery Company  
1107 Prospect Ave. S. E., Cleveland, Ohio



Residence of Dr. H. M. Pollock, Supt. Norwich State Hospital, Norwich, Conn. Cudworth & Woodworth, Architects

## PARKER, PRESTON & CO.'S Art in Shingle Stains

(Waterproof and Odorless)

THESE Shingle Stains contain no creosote and are absolutely free from all objectionable odor.

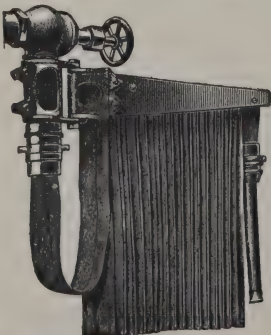
They create an impervious coating, causing the shingle to shed water like a duck's back, thereby keeping out dampness, the greatest enemy known to wood, and doubling the life of shingles.

Everything that enters into the make of ART IN SHINGLE STAINS is of the highest quality possible for man to produce; they are made in the most scientific manner. Colors of extreme tone and richness and of absolute purity, combined with pure linseed oil and our special Waterproof Protective Liquid.

Endorsed by Leading Architects and others

Send for cabinet of rich colors, free  
Adamant Stucco, Brick and Plaster Coating  
Waterproof Flat Brick Stains Weatherproof Coating  
Waterproof Brick and Stone Filler  
Adamant Cement Floor Coating  
MANUFACTURED SOLELY BY

Parker, Preston & Co., Inc., Norwich, Conn., U.S.A.  
New York Branch, 25 West 42d Street



## The "ROYAL" Pressed Metal HOSE RACK

SURE IN OPERATION  
HOSE UNDER COVER  
ATTACHED PINS

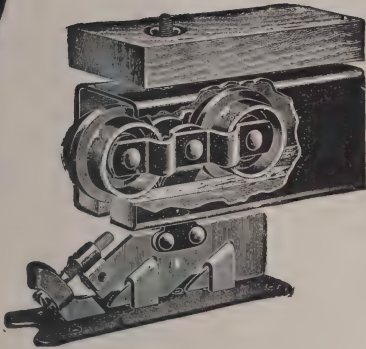
Made of PRESSED STEEL  
and MALLEABLE IRON



Can be attached to wall, to stand pipe, or by means of nipple direct to valve.  
Wirt & Knox Mfg. Co., 20-24 No. 4th St., Phila., Pa.

Catalogue on Request

## Richard's Royal Ball Bearing Door Hanger



### Our No. 122 Royal Ball-Bearing Trolley House Door Hanger

is the one which we are most frequently using to illustrate this series of advertisements, because it is thoroughly typical of the Richards line. We make a large number of different hangers for as many different purposes, so that we can always supply the exact one needed.

### The No. 122 Royal Ball-Bearing Trolley House Door Hanger

is perfectly noiseless, the wheels run on hard maple, the adjustment is in hanger and also in the track. The track can be easily taken down **after the walls are plastered.**

Four sets of balls in each hanger and overhead center stop.



We will send a hanger free to any architect requesting us to do so.



**The RICHARDS MANUFACTURING CO. Inc.**  
Aurora, Illinois. 101 Reade St. N.Y.



## Surrounded by Knowledge

With this complete ten volume set of **Architecture, Carpentry and Building**

you can practically surround yourself by the knowledge you need in your every day work. You can have at your fingers' ends, for instant use, the help and advice of forty experts.

### The Reference Value is Guaranteed

by the fact that the books are compiled from text books used in the correspondence courses of the American School.

### Read What This Great Work Comprises

It is the most exhaustive, comprehensive and authoritative work on the building trades ever published. Covers every branch of building construction, from plans to finishing touches. Bound in half morocco; 4,670 pages, 7 x 10 inches, printed on special paper; large, clear type.

**Contains:** Plans, color plates and photos of buildings completed and in course of construction. Diagrams and sections showing all details. Over 400 full page plates. 3,000 detail drawings, diagrams, etc. Just the thing for the student and a practical guide for the experienced carpenter and an ever ready reference work for the expert.

**Our Liberal Offer** To introduce our Correspondence Courses, from which the Cyclopedia is compiled, we offer this set of books at the special price of \$24, payable \$2 after 5 days and \$2 a month. Regular price is \$50. Order now and save over 50%.

### PARTIAL LIST OF CONTENTS

Reinforced Concrete; Contracts and Specifications; Building Materials; Carpentry; Building Superintendence; Estimating; The Law of Contracts and Liens; Masonry; Stair Building; Heating; Ventilation; Hardware; Steel Construction; Elevators; Architectural Drawing; Freehand Drawing; Blue Printing; Greek and Roman Orders; Water Color Hints for Draftsmen; Painting; Wiring of Door Bells; Sheet Metal Pattern Drafting; Mechanical Drawing; Lettering; Shades and Shadows; Rendering in Pen, Ink and Wash, etc.

For a short time we will include, as a monthly supplement, for one year, the TECHNICAL WORLD MAGAZINE. This is a regular \$1.50 monthly, full of Twentieth Century scientific facts, written in popular form. Also contains the latest discussions on timely topics in invention, discovery, industry, etc.

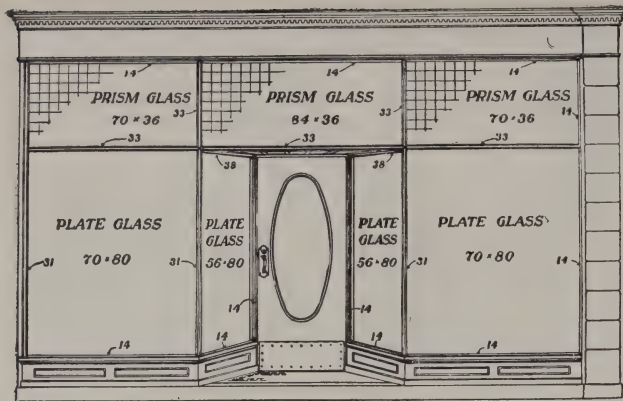
### American School of Correspondence, CHICAGO, U. S. A.

Please send set Cyclopedia of Architecture, Carpentry and Building for 5 days' free examination; also Technical World for 1 year. I will send \$2.00 within 5 days and \$2.00 a month until I have paid \$24.00; or notify you and hold the books subject to your order. Title not to pass until fully paid.

NAME.....  
ADDRESS.....  
OCCUPATION.....  
EMPLOYER.....

Arch. Record, 6-10





## BETTER LIGHT

and more display room are certain results when store fronts are built on the Petz System. It combines to the greatest degree the essentials of strong, permanent construction and artistic appearance. It is quicker and easier to install than others, as with Petz Bars the glass is set from outside. Insurance companies, architects and builders endorse them and you should insist upon them.

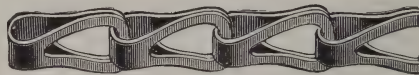
An interesting booklet, "Modern Store Front Construction," will be mailed upon receipt of your request. Write for it today.

**DETROIT SHOW CASE CO.**  
Sole Makers

477 West Fort St. Detroit, Mich.



A Good Repeater—if once specified, always used



## "Giant Metal" Sash Chain

Used throughout the Hewitt-Bryce Bldg., New York

Capacity Chain Plant, 20 miles per day  
In use over 30 years

**THE SMITH & EGGE MFG. CO.**  
Bridgeport, Conn.

## JAPANESE GRASS CLOTH JAPANESE BURLAPS JAPANESE SHIKII SILKS

FOR WALL DECORATIONS  
In specially selected shades and original effects  
Full stock always on hand

**LIONEL MOSES, Importer**  
27 East Twenty-first Street, New York

Book of samples of complete line mailed free on application. Trade Exclusively



## SAMSON SPOT CORD

**SAMSON CORDAGE WORKS,**

**BOSTON, MASS.**

can be distinguished by our Trade Mark, the Colored Spot. It has been proved by long experience to be the most economical device for hanging windows.



LAUREL-IN-THE-PINES, LAKEWOOD, N. J.

*Protected from Lightning by the  
N. Wallace System of Solid  
Copper Lightning Conductors*

**N. WALLACE, Farmington, Connecticut**

## J-M Asbestos Roofing is the Only Smooth-Surfaced Ready Roofing Permitted

Statistics gathered by the National Board of Fire Underwriters show that the fire loss in the United States during the ten years ending in 1907 averaged \$203,000,000 a year. Statistics further show that over half of these annual fire losses were the result of flames being communicated from another building by burning sparks, embers, etc., landing on an inflammable roof.

### IN SAN FRANCISCO, CAL.

where the authorities are using every precaution to prevent a possible recurrence of the terrible fire loss of 1906, J-M Asbestos Roofing is the only smooth-surfaced ready roofing permitted within the city fire limits.

### IN JACKSONVILLE, FLA.

where the building laws regarding fireproof materials are severe since their \$10,000,000 fire in 1901, J-M Asbestos Roofing is included among metal, slate and the other fireproof materials which can be used.

### IN MINNEAPOLIS, MINN.

after an official test, during which the flame of a blow-torch failed to ignite wood covered with J-M Asbestos Roofing after a ten-minute exposure, the City Council amended their city building ordinances to include this roofing.

### IN ATLANTA, GA.

the Building Committee has pronounced J-M Asbestos Roofing equal to metal, tile and slate for resisting fire.

When after thorough investigation and careful tests, such cities as the above pronounce J-M Asbestos Roofing absolutely fireproof, *isn't it a pretty safe guide for you to follow?* J-M Asbestos Roofing is absolutely fireproof because it is made entirely of minerals—Asbestos and J-M Trinidad Lake Asphalt. Write nearest branch for Sample and Booklet.

## H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos  
and Magnesia Products

Baltimore  
Boston

Buffalo  
Chicago  
Cleveland

Dallas  
Detroit  
Kansas City

**ASBESTOS**

London  
Los Angeles  
Milwaukee

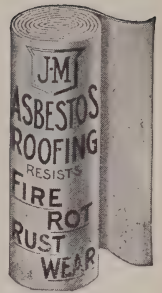
Minneapolis  
New Orleans  
New York

Asbestos Roofings, Packings,  
Electrical Supplies, Etc.

Philadelphia  
Pittsburg  
San Francisco

Seattle  
St. Louis

(1057)



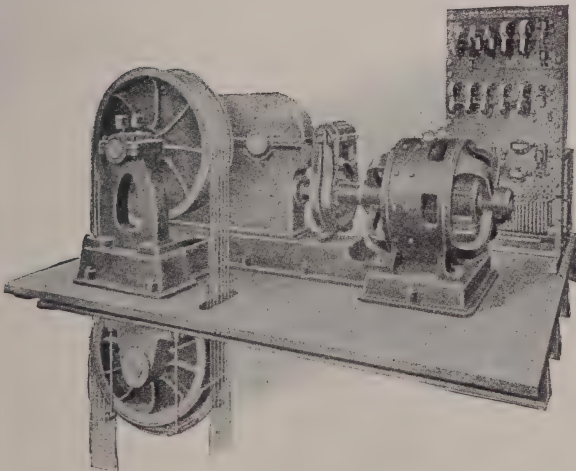
## The Ohio Elevator & Machine Co.

MANUFACTURERS OF

Passenger and  
Freight

# Elevators

FOR EVERY  
SERVICE



Adaptable to any height of building and has very high speed

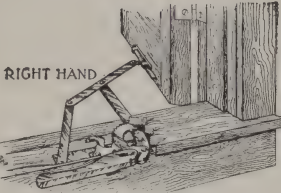
Electric      Hydraulic  
Belt and Hand Power

## The Ohio Elevator & Machine Co.

COLUMBUS, OHIO



# How to Specify Casement Windows



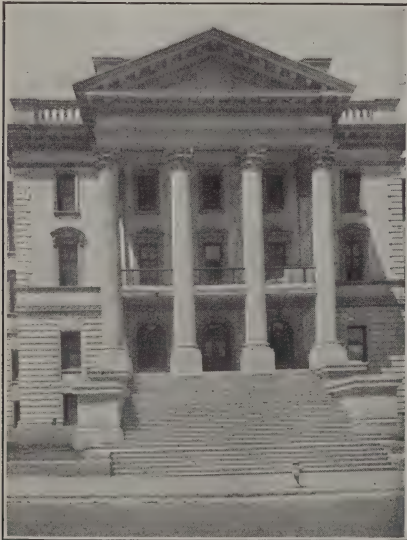
Note that Sperry Casement Window Adjuster is concealed under the stool of the window—works without raising the screen—no part protruding in the room when not in use.

Complete details for Sperry Casement Windows are found on page 595, Sweet's Catalogue.

Use these details when specifying the Sperry Casement Adjuster, as the Sperry goes entirely under the stool of the window and is an integral part of the building—not an attachment to be put on at the carpenter's convenience.

See page 595 Sweet's Catalogues for installation and specification detail

**OSCAR C. RIXSON CO.**  
111 West Harrison Street, CHICAGO



Southern Pacific Hospital, San Francisco, Cal.

Equipped with



**SOSS**  
**INVISIBLE HINGES**

Send for Booklet or see "Sweet's," pages 598-599

**SOSS MFG. COMPANY**  
435 Atlantic Ave., Brooklyn, N. Y.



**Awarded the Gold Medal at the St. Louis Exposition, 1904, for Superiority of Goods**

**Eureka Fire Hose Mfg. Co.**

New York, N. Y.  
Chicago, Ill.  
Columbus, O.  
Dallas, Tex.  
Denver, Colo.  
Syracuse, N. Y.

Boston, Mass.  
Philadelphia, Pa.  
Atlanta, Ga.  
Minneapolis, Minn.  
Seattle, Wash.  
San Francisco, Cal.

Kansas City, Mo.

# LINCROSTA WALTON

**SOLID RELIEF DECORATION**

Dados, Friezes  
Ornaments & Panels  
In Any Color  
For Dining Rooms  
Halls, Hotels,  
Offices  
Club Houses  
Yachts, Churches  
Used by all  
Principal Dealers  
Throughout the  
United States

**FR. BECK & CO.**  
7th Ave & 29th St. New York



The Thomas L. Morton Residence, Newark, N. J.  
William F. Cone, Architect

## NEPONSET Black Waterproof Building Paper

**W**HY should a non-waterproof building paper ever be used? It cannot last, because it becomes damp, decays, dries again, crumbles and finally disappears.

The cost of a really good waterproof paper for residential work is

only about three-tenths of a cent per square foot more than the lowest grade of so-called building paper.

Compare a sample of NEPONSET PAPER with a sample of Rosin Sized Paper. Don't you think the difference is worth three-tenths of a cent?

Our sample book is in the Catalogue Cabinet File. See Sweet's Index for further information.

**F. W. BIRD & SON, MAKERS**

Established 1817. Mills and Main Office, EAST WALPOLE, MASS.

New York

Washington

Chicago



## NONPAREIL CORKBOARD

*The Standard Cold Storage Insulation*

*Every person who is concerned with the design, construction or operation of cold storage rooms of any description will be much interested in our new 120-page book, entitled "Nonpareil Corkboard Insulation."*

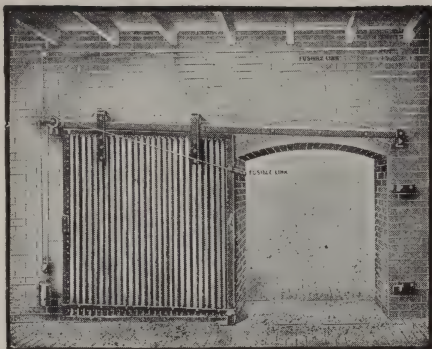
*It is the most exhaustive treatise on this subject ever published, and contains much data never available in printed form heretofore. The book is neatly and substantially bound. A copy is yours for the asking.*

**Armstrong Cork Company** Insulation Department **Pittsburgh, Pa.**

NONPAREIL CORK WORKS, 50 Church Street, New York City  
JOHN R. LIVEZEY, 1933 Market Street, Philadelphia, Pa.

BRANCHES IN THE PRINCIPAL CITIES





NO WOOD TO ROT NO TIN TO RUST

## THE "SAINO"

THE REALLY FIREPROOF DOOR

**No Combustible Material**—Sheet asbestos between two metal walls stops heat.

**No Decay**—Made of 22 gauge iron, corrugated and galvanized—**no rust**.

**No Repairs**—For reasons stated above. Last many years longer.

**No Criticism from Underwriters**—Fully tested and approved.

**Weight**—Half as much, look better and cost no more than other standard doors.

Shutters made of same materials.

Fixtures, Hangers, Track,

Fusible Links, Etc.

Perfect too late for "Sweet's" 1910, but will be in 1911 edition.

Saino Fire Door & Shutter Co., Memphis, Tenn.

SMOOTH

EFFICIENT

## FIRE DOORS FIRE SHUTTERS

Inspected and Labeled by  
Underwriters' Laboratories, Inc.

# SAGAX

Fireproof—Weatherproof  
Wood Substitute

NO TIN NO WOOD

See pages 708-709 in "Sweet's"

The Sagax Wood Co.

Foot of Andre Street  
Baltimore, Md.

John W. Rapp Co., N. Y. Distributor

?

Do You Use

## "KOH-I-NOOR" PENCILS

If not,  
you should  
try them at once  
and be convinced that  
the "KOH-I-NOOR" pencil  
is by far the best pencil in the  
world for any purpose. The "KOH-  
I-NOOR" pencil is made in 17 degrees  
and has no equal for writing, drawing,  
copying or retouching. Architects all over the  
world use them exclusively, because  
"KOH-I-NOOR" pencils are perfect-  
ly tempered and compressed, are  
free from grit or soft, greasy  
spots and rarely break,  
and they last longer  
than any other  
pencil in the  
market.

Price 10 cts. each or \$1.00 a dozen. All first  
class dealers in Drawing Materials and Sta-  
tionery sell "KOH-I-NOOR" pencils.  
Made in Austria, sold and used everywhere.

L. & C. HARDTMUTH

34 E. 23d St.

New York

## Fine Inks and Adhesives HIGGINS'

DRAWING INKS, ETERNAL WRITING  
INK, ENGROSSING INK, TAURINE  
MUCILAGE, PHOTO MOUNTER PASTE,  
DRAWING BOARD PASTE, LIQUID  
PASTE, OFFICE PASTE, VEGETABLE  
GLUE, ETC.

Are the finest and best goods of their kind



Emancipate yourself from the corrosive and ill-  
smelling kind and adopt the Higgins Inks and  
Adhesives. They will be a revelation to you. The  
Drawing Inks are the Standard of the World. Eter-  
nal Ink writes *everlastingly* black. The adhesives  
are clean, sweet, and remarkably efficient. For  
home, office, library or school, for all private and  
public use we guarantee them absolutely the best.

AT DEALERS

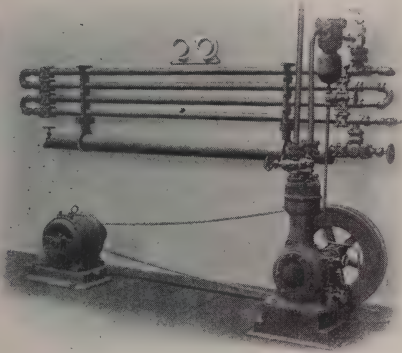
CHAS. M. HIGGINS & CO., Mfrs.

271 9TH STREET

BROOKLYN, N. Y.

ALSO CHICAGO AND LONDON

## Practical Artificial Refrigeration for Private Residences



**T**HE DIRT, inconvenience and dangers of the daily ice delivery are no longer necessary. The Baker ice machinery is now made in sizes which simplify the chilling of refrigerator and cooling room to the turning of an electric switch.

A machine as necessary the year around as the heating system is in winter, and less expensive both to buy and to operate.

Private residences of the better sort can add no other convenience that will prove so economical or last so long.

Perfect preservation of food and ice of known origin are of the utmost importance, and owners and architects interested in good homes should get facts on the cost of actual installations of Baker machinery by those who have bought and are using them.

Write us for this data, covering installations in all parts of the country.

We believe no good home would be built without artificial refrigeration if the low cost and entire simplicity and dependability of Baker Machines were well known.

**Baker Ice Machine Co.**  
Omaha, Nebraska

## HARDWARE

### INDIVIDUALITY COUNTS

Why not carry it to  
HARDWARE?  
We execute your design  
faithfully.

**HANSON  
& RHODES**  
157 West 29<sup>TH</sup> St. N.Y.

Gold, silver, bronze or  
nickel plating permits  
matching any shade of  
woodwork.

We have fifty shades of  
bronze alone.

## HARDWARE

## WIRE WORK CLOTH GOODS

We have just completed our new catalog showing photographs of work designed and erected by us.

We want every architect and builder to have a copy of it.

**Estey Wire Works Co.**  
59 Fulton Street, New York



## SILVER LAKE A

Our name is stamped on every foot

We guarantee

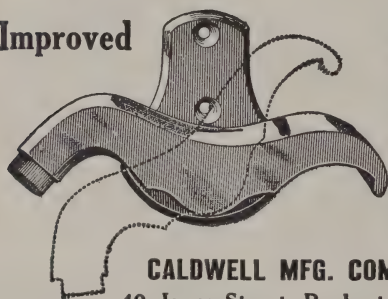
## SILVER LAKE SASH CORD

because we know that it is made by skilled labor, on the best braiding machines and from the best stock obtainable.

Specify SILVER LAKE A

## Empire Door Holder

Improved



50 per cent. greater pressure on the floor than any other. Easy to apply. Easy to operate.

**CALDWELL MFG. COMPANY**

40 Jones Street, Rochester, N. Y.

## Pipes Held Away from Wall

Lane's "Patent Pipe Hanger" for Protecting Walls from Damage by Water and Ice, by Hanging Leaders Away from the Building.

**IRA G. LANE** 207 E. 64th St. New York

## The Dictograph

IDEAL OFFICE INTERCOMMUNICATION

Saves Time and Nerves for the Busy Man

INSTANTANEOUS  
SECRET  
SELF CONNECTING

**NATIONAL DICTOGRAPH CO.**

Tel. 3790 Mad. Sq. 1265 Broadway, New York

Branch Offices in Principal Cities



**ELECTRIC LIGHTS FOR EVERYBODY**

WITH EVERY DETAIL  
ENGINE GENERATOR SWITCHBOARD  
STORAGE BATTERY 15 TUNGSTEN LAMPS  
FIXTURES WIRE ETC.

**COMPLETE PLANT \$262**

SEND TWO CENT STAMP FOR FREE BOOKLET

The Richardson Engineering Co. HARTFORD, CONN.

## LUFKIN MEASURING TAPES and RULES

Are Indispensable for Accurate Work

For Sale Everywhere. Send for Catalog No. 20.

The **LUFKIN** Rule Co. Saginaw, Mich., U. S. A.  
New York, London, Eng.  
Windsor, Can.

We are Importers and General Agents for the FAMOUS

**"KOH-I-NOOR"**

and other Pencils manufactured in Austria by

Messrs. L. & C. Hardtmuth

**EUGENE DIETZGEN CO.**

214-220 East Twenty-third Street, - New York

Manufacturers of Surveying and Mathematical  
Instruments and Drawing Material.

Branches—Chicago, San Francisco, New Orleans, Toronto

## WE DO PLANTING FOR ARCHITECTS

We shall be pleased to mail our illustrated General Catalog No. 85 to Architects having Landscape work.

Submit to us your list of requirements for special quotations. Visit our Nurseries.

**BOBBINK & ATKINS**

Nurserymen, Florists and Planters

RUTHERFORD, N. J.

*Porcelain Enamel Paint* Reg. U. S. Pat. Off.

*Bessemer Rustproof Paint* Reg. U. S. Pat. Off.

*Galvanized Iron Primer* Reg. U. S. Pat. Off.

*Waterproof Flat Unicoat* Reg. U. S. Pat. Off.

For details see Sweet's **RINALD BROS.** 1142-1146 N. Hancock St., Philadelphia, Pa.

## C. G. HUSSEY & CO.

Pittsburg, Pa.

MANUFACTURERS OF CORRUGATED ROUND AND SQUARE  
COPPER CONDUCTOR PIPE

EAVES TROUGHS, ELBOWS AND SHOES

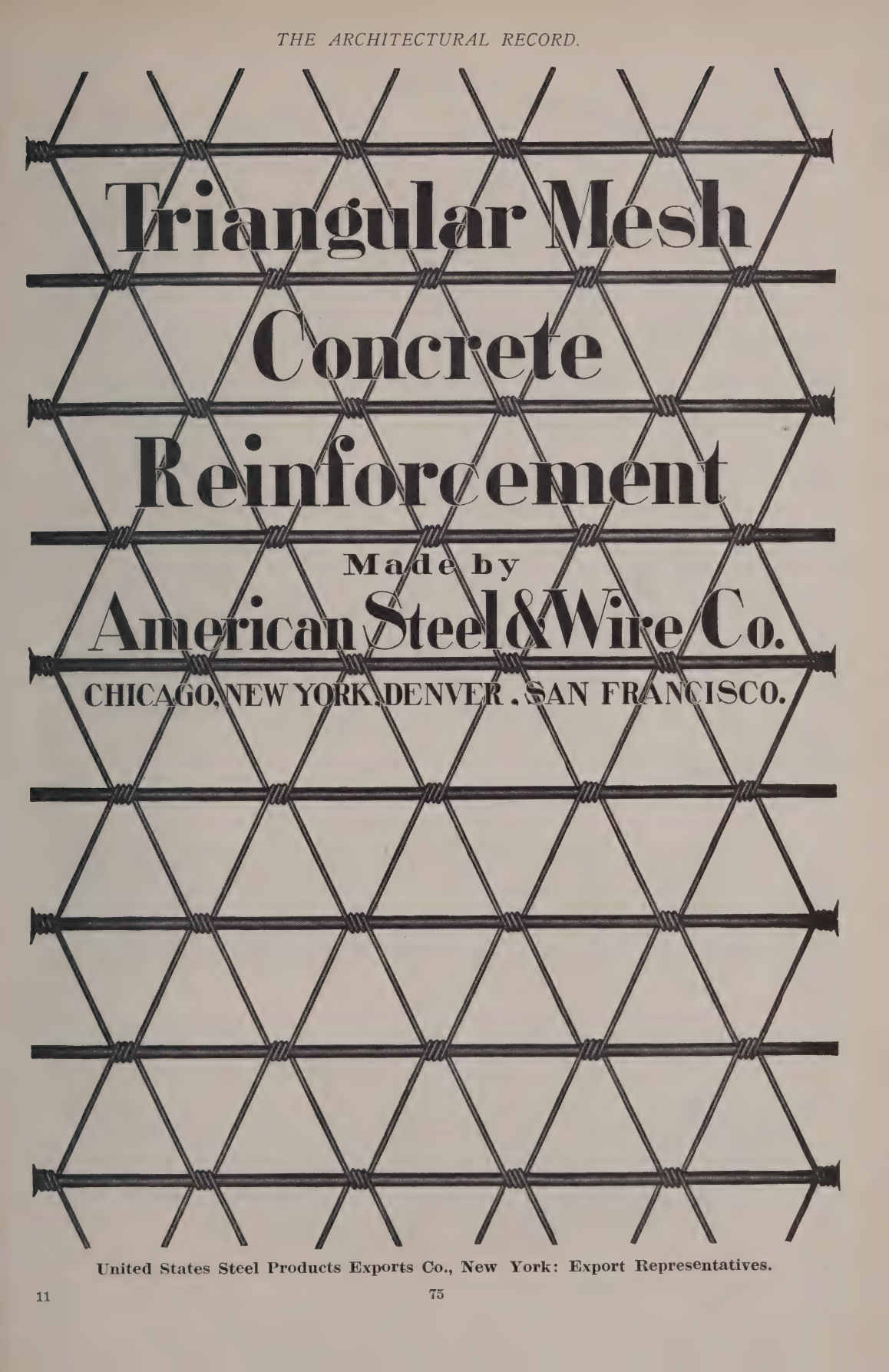
SHEET COPPER FOR CORNICE AND ORNAMENTAL WORK

A MANUFACTURER writes:

"We have lately received a number of enquiries and orders from our catalogue in Sweet's Index. The results we have attained have been very satisfactory, and we are glad that we entered into this contract with you."

This expresses the opinion of hundreds of manufacturers who have used "SWEET'S." Isn't it up to you to get in the next issue?

SWEET'S, 11 East 24th St., N. Y.



# Triangular Mesh Concrete Reinforcement

Made by  
**American Steel & Wire Co.**  
CHICAGO, NEW YORK, DENVER, SAN FRANCISCO.

United States Steel Products Exports Co., New York: Export Representatives.





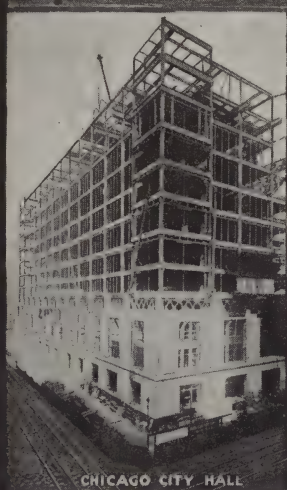
A FIREPROOF RESIDENCE



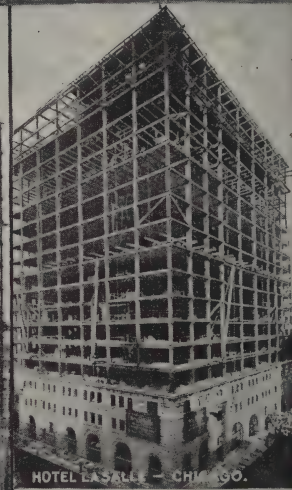
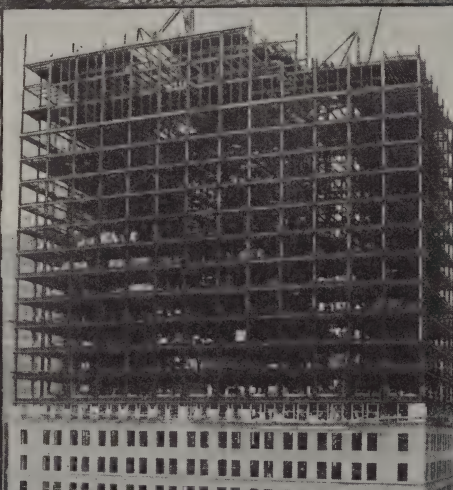
CHICAGO & NORTH WESTERN  
STATION - CHICAGO



RESIDENCE  
GEORGE WASHINGTON HALL



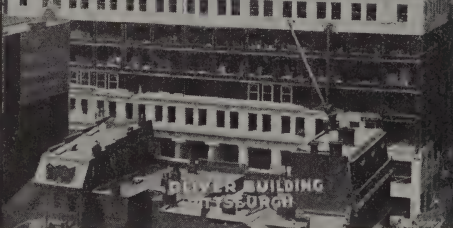
CHICAGO CITY HALL



HOTEL LA SALLE - CHICAGO



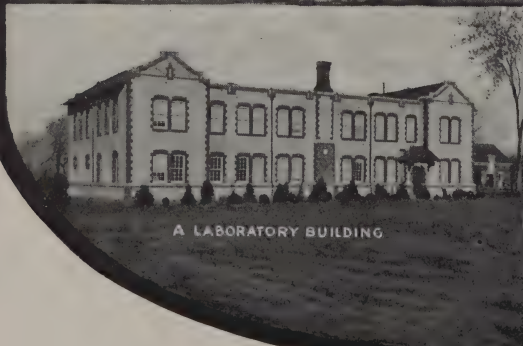
FIREPROOF FACTORY BUILDING  
MARION N. J.



RIVER BUILDING  
PITTSBURGH



FIREPROOF SCHOOL BUILDING  
ROSELLE N. J.



A LABORATORY BUILDING



FACTORY BUILDING

*The opposite page shows a few  
illustrations of the variety of buildings  
fireproofed by the material and methods of the*

## National Fire Proofing Company

The last few years have shown a most rapid development of the use of

# Terra Cotta Hollow Tile

for fireproof construction of all kinds of buildings, large and small.

The economy, facility and safety of construction of this material; its high insulating value and its flexibility for architectural expression have been clearly established in the building of hundreds of Residence, Factory, School, Club and similar types of buildings where it has been used not only for interior construction, but for exterior walls.

This has been due to the recognition of the value of this material for structural purposes, as well as for the protection of steel against the action of fire.

Our publications are at the service of anyone interested.

For information on fireproof construction of steel frame buildings, ask for Standard Construction Catalogue.

For information on buildings of reinforced construction ask for Long Span Fireproof Construction Catalogue.

For information on construction of buildings where Terra Cotta Hollow Tile is used for exterior walls ask for "Fireproof Residences and How to Build Them."

## National Fire Proofing Company

The largest company in the world devoted solely to the business of fireproof construction in both Hollow Tile and Reinforced Concrete

Organized 1889

Capital Twelve and One Half Million Dollars.

Pittsburgh, - -	Fulton Building	Canton, -	City Nat'l Bank Building
Chicago, Commercial	Nat'l Bank Building	Cincinnati, -	Union Trust Building
New York, - -	Flat Iron Building	Minneapolis, -	Lumber Exchange
Boston, - -	John Hancock Building	Los Angeles, -	Central Building
Philadelphia, -	Land Title Building	Toronto, Can., -	Traders Bank Building
Washington, -	Colorado Building		

26 Factories in the United States.





A Metal Lumber I-Joist

# Berger's *Metal Lumber*

Interior construction view of second floor of Wilson's Garage, Canton, Ohio, showing Metal Joist before Cement Finish Floor was applied.



Special metal shapes—Joists, Channels, Angles, etc., to take the place of wood structural members in dwellings and similar structures, also for floors and partition work in larger buildings. Prongs for attaching metal lath are punched out on the members and quickly clinched over the lath with a hammer.

Easily and quickly erected by any good mechanic,—as quickly as wood and quicker than reinforced concrete. Cost low as compared with other types of non-combustible construction.

Write today for Catalog F-10-T

**THE BERGER MFG. CO., - CANTON, OHIO**

New York Boston Philadelphia Chicago St. Louis Atlanta Minneapolis San Francisco

# BOSTWICK

IT IS RIGID

IT REQUIRES  
FEWER SUPPORTS

IT SAVES PLASTER

**BOSTWICK  
STEEL  
LATH CO.**

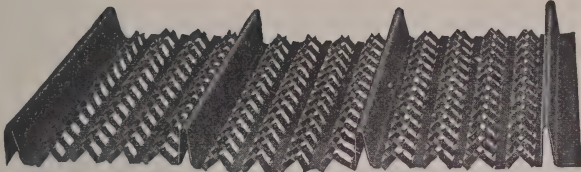
Niles, Ohio

*See Our*  
**"TRUSS-LOOP"  
LATH**

**WILL  
BEAR  
YOUR  
WEIGHT**



# The Manifold Uses of Hy-Rib



**ROOFS** Lay the Hy-Rib Sheets over the supports, pour on the concrete and plaster the under surface. No centering or falsework is necessary. Use Hy-Rib on either flat or sloping roofs. Build permanent and fireproof roofs with Hy-Rib. Discard leaky, short lived corrugated iron.



Hy-Rib Partition Wall or Siding

**SIDINGS AND WALLS** Set the Hy-Rib Sheets in place, apply the cement plaster, and the wall is complete—no studs are necessary. Use Hy-Rib in place of corrugated iron and wood sheathing for Factories, Foundries, Car Barns, etc. Also for stucco work and residences.

**FLOORS** A self centering reinforcement for concrete floor slabs; no falsework necessary. For arched floors our shops provide Hy-Rib bent to exact curve—doing away with the expensive field bending and centering.

**PARTITIONS** The most economical construction for solid plastered partitions. Merely set up the Hy-Rib Sheets—apply the plaster—the partition is complete. Does away with the expense of wiring lath to studs, and makes a stronger wall.

**CEILINGS** The best reinforcement for ceilings—does away entirely with the small channels and T's ordinarily necessary. Saves the expensive field labor of wiring lath to channels.

**FURRING** No furring strips or studs of any kind are necessary where Hy-Rib is used. The air space between the ribs stops the conduction of heat, cold and moisture.

**Free** Hy-Rib Catalog (48 pages of useful building information).

Other Kahn System Products: Kahn Trussed Bars; Rib Metal; Column Hooping; Cup Bars; Rib-Lath; Rib-Steel and Trus-Con Chemical Products.

"Kahn System Standards" (third edition), the best handbook on Reinforced Concrete Design, FREE if request is made to us on your business letterhead.

Write us about the work you are interested in and we will mail free catalogs and suggestions that will be valuable to you.



Hy-Rib Roof for American Car & Foundry Co. Berwick, Pa.

## Trussed Concrete Steel Company

Offices in principal cities

617 Trussed Concrete Bldg., Detroit, Mich.

# KAHN

# SYSTEM



# CORRBAR UNITS

## THE PERFECT REINFORCEMENT



SHIPPED FLAT—OPENS READY TO PLACE

CORRBAR UNITS are shipped flat and open—ready to place in the form.

They cannot be bent or damaged in shipment. They take the same freight rate as loose bars.

**CORRUGATED BAR COMPANY**  
1416 NATIONAL BANK OF COMMERCE BUILDING  
ST. LOUIS, MO.

### Fire Protection That Protects



50 to 36 West Eighteenth Street

### Side Wall Equipped With Voigtmann Windows

One of the many instances proving the superiority of **Fire Windows** made by

**VOIGTMANN & COMPANY**

427 West 13th St., New York  
50-52 East Erie St., Chicago

SEND FOR CATALOGUE

### What Press Clipping Will Do For You

*In business, as an aid in finding new markets and new outlets for your products.*

*In keeping posted on any subject under the sun in which you may be interested.*

*In literary work of whatever nature, supplying original material for lectures, addresses, debates, etc.*

ALL this we will gladly tell you just for the asking. Write us at once, stating what your business is or what you are interested in, and we will give you full information and advice as to how Press Clippings can help you and what it will cost.

The International Press Clipping Bureau receives, reads and clips fifty-five thousand publications, daily and weekly papers, monthly magazines, trade, literary and religious papers, etc. Let us show you why and how we can be of service to you at how little cost.

**International  
Press Clipping Bureau**

Dept. 103 378 Wabash Ave., Chicago, Ill.



## WHERE ARCHITECTS

extend their customary precautions to the *METHODS OF MIXING* THEIR CONCRETE, and

Specify that "All Concrete  
MUST be mixed with a  
Marsh-Capron Mixer"

they remove from the occasionally lax contractor both his temptation *and his possibility* of employing cheap and ineffectual methods of *mixing* (and the *mixing* is the very life of concrete.)

Architects thus secure for themselves a *definite assurance* that if their specifications of *materials also* be properly observed, the resultant structure or ornament will be an enduring monument to their business foresight no less than to their artistic mastery.

It is a point worthy of thought.

*Write us—our reply will be authoritative upon  
methods of making concrete construction SAFE.*

MARSH-CAPRON MFG. COMPANY

471 Old Colony Building, CHICAGO.







UNIVERSAL is the highest grade, purest Portland cement made. It is the safest to use because it is absolutely uniform in quality. We make sure that it is uniform in soundness, strength, fineness and setting qualities by taking a sample for testing four hundred and fifty times an hour.

As the finished product comes from the mill, it passes on a conveying belt to the bin. About half way to the bin, stands an automatic machine which takes a certain quantity from it every eight seconds for testing. This automatic sampling device was originated and perfected by this Company and is used by us exclusively. Every sixty minutes, these samples are gathered up and taken to our laboratories, where they are subjected to the most severe tests known. This method of obtaining fair samples and of testing Universal is an example of the painstaking and exacting care exercised at every step in the process of its manufacture.

### UNIVERSAL PORTLAND CEMENT CO.

CHICAGO — PITTSBURG

Annual output—8,000,000 barrels

Prominent Architects, Engineers and Contractors  
Specify and Use

# EDISON PORTLAND CEMENT

Because of its national recognition by Federal and Municipal Authorities and for  
"EDISON'S FIVE STRONG POINTS:" Fineness—Color—Strength—  
Uniformity and Sand Carrying Capacity.

### THE EDISON PORTLAND CEMENT COMPANY

New York, St. James Building

Philadelphia, Arcade Building

Pittsburgh, Machesney Building

Boston, Post Office Square Building

Newark, Union Building

Savannah, National Bank Building

## REINFORCED CONCRETE FOR HOUSES



Reinforced Concrete Residence of Wm. C. De Lanoy, Esq.  
at Short Hills, N. J. John A. Gurd, Architect

We have for years specialized  
in the finest Residence Work  
in Reinforced Concrete,

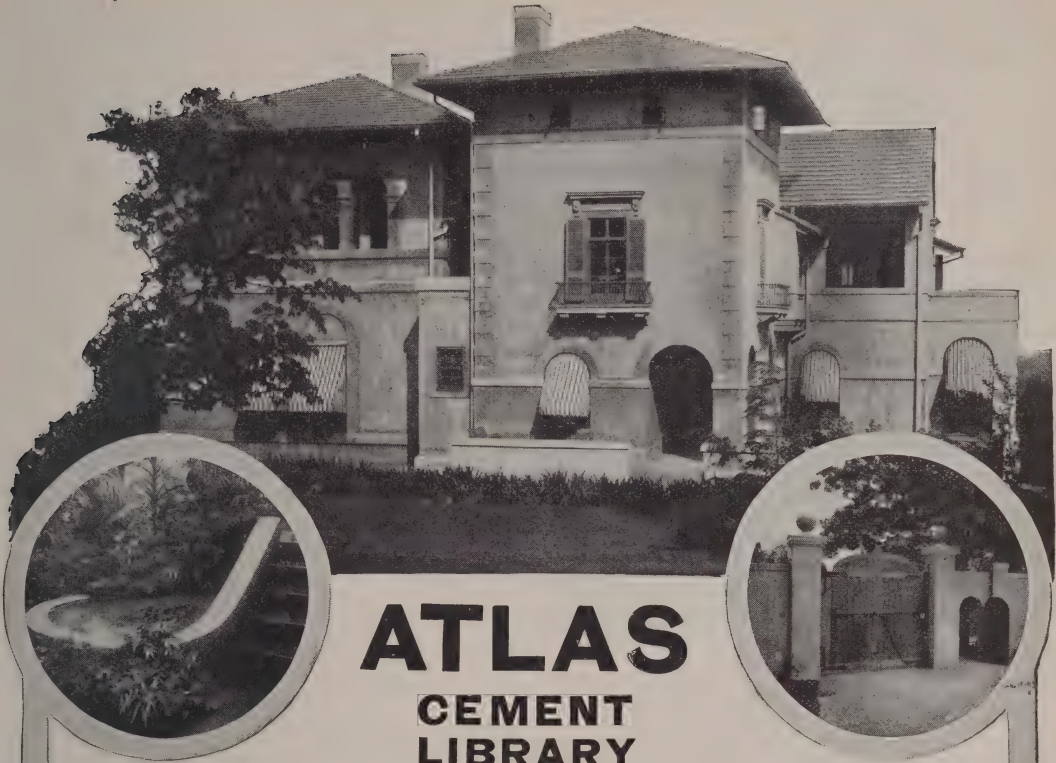
and have obtained for the architect the exact effects required by his designs in structure, detail, texture and color. Our completed works are our testimonials, showing the fine results obtainable by experience in combination with technical knowledge.

FULL INFORMATION ON REQUEST

**BENJAMIN A. HOWES**

Engineer and Contractor

15 West 38th Street NEW YORK



# ATLAS

## CEMENT LIBRARY

is a set of books for which you should write at once if you are interested in anything that may, might, should or could be built of concrete. These carefully prepared books give explicit information about concrete construction and equally explicit information about the quality of Atlas Portland Cement.

### SEND FOR THESE BOOKS TODAY

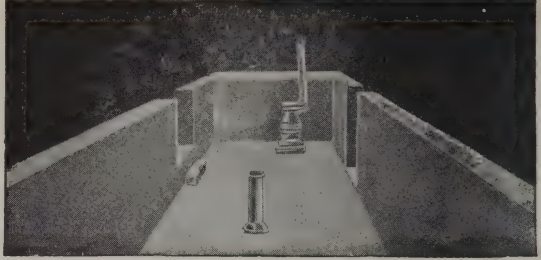
Concrete Houses and Cottages.	Vol. I—Large Houses	\$1.00
	Vol. II—Small Houses	1.00
Concrete Construction about the Home and on the Farm	Free	
Concrete in Highway Construction.....		\$1.00
Reinforced Concrete in Factory Construction		
	Delivery charge	.10
Concrete in Railroad Construction.....		1.00
Concrete Cottages.....		Free
Concrete Country Residences (out of print).....		2.00
Concrete Garages.....		Free

IF YOUR DEALER CANNOT SUPPLY YOU WITH "ATLAS," WRITE TO  
**THE ATLAS PORTLAND CEMENT CO., DEPT. A, 30 BROAD STREET, NEW YORK**  
 Largest output of any cement company in the world. Over 50,000 barrels per day



# Brunner

## SIDEWALK LIGHTS



## The Value of a Basement

Depends entirely upon the way it is illuminated. In designing a building the basement should be made to serve the same purpose as the other floors. That the best results be obtained, it is necessary that a construction be used which will permit free passage of light and be permanently waterproof and durable. The only system which will give the results wanted is the one which we have been installing for the last sixteen years.

*See Sweet's or get our booklet*

**ALBERT GRAUER & CO.**

**PITTSBURGH**

Detroit Cleveland Columbus Cincinnati

WINE CELLAR OF WILLIAM MALIA  
Atlantic City, N. J.  
Waterproofed with **Aquabar**

# Aquabar

Is a permanently reliable water-proofing material, because it crystallizes and becomes a part of the mass, sealing completely the voids between the sand and cement. The simplicity of mixing, next to its water-proofing qualities, is the dominating feature in the use of **Aquabar**.

Send for Booklet A2 describing the **effectiveness, durability and economy** of AQUABAR.

**GIRVAN-NACHOD COMPANY**

General Sales Agents  
**PHILADELPHIA, PA.**

F. A2



PFANNMUELLER ENG. CO.'S BUILDING  
Largest Machinery Exhibition Building  
in the United States  
Alfred S. Alschuler, Architect

*All Exposed Walls of  
Office Section Protected with*

**Damp Proofing  
Compound No. 10**

*Manufactured by*

**The Illinois Damp Proofing Co.**

Roanoke Building, Chicago

See "Sweet's," pages 56-57

# Dragon

## PORTLAND CEMENT

By its absolutely uniform quality has won the confidence and unqualified endorsement of Engineers and Builders throughout the country.

Used exclusively on many of the most important engineering works in more than eighteen hundred cities and towns in the United States and on fifty-five railroad systems.



A list of places and buildings where "Dragon" Cement has been used in the past twenty-one years will be sent on request.

CORRESPONDENCE SOLICITED

Address :

THE LAWRENCE CEMENT COMPANY, - New York  
LAWRENCE PORTLAND CEMENT CO., Philadelphia

# "LEHIGH" PORTLAND CEMENT

Is the Best for High Class Engineering Work

MANUFACTURED BY

## Lehigh Portland Cement Company

WESTERN OFFICE:

725 Rockefeller Bldg., Cleveland, Ohio

ALLENTOWN, PENNA.

## Sweet's Catalogue, 1911 Edition

Space can now be reserved for the next edition of **SWEET'S** Catalogue of Building Construction. Don't wait, or you may lose correct classification.

Every firm seeking orders in the field of building construction should use this coming issue of **SWEET'S**.

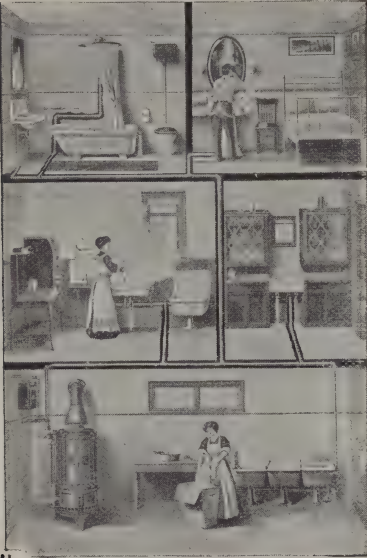
We are adding a new feature which will interest the manufacturer who can sell only in a limited territory. Write us.

**SWEET'S**, 11 East Twenty-fourth Street, New York



## Hot Water Service

Almost equal to your cold water service can be secured from a Humphrey Automatic



Gas Water Heater at little expense and entirely without any thought or bother. Where used, just open a faucet and out pours hot water. Let us tell you about it. Guaranteed.

**HUMPHREY COMPANY**

539 Rose Street - Kalamazoo, Mich.

## "ELECTRIC WELD"

**Combination Boiler and Gas Water Heater**

Has the endorsement of the leading gas companies and all others interested in the science of domestic hot water supply.

The above and all other

*Electric Weld*

**PRODUCTS**

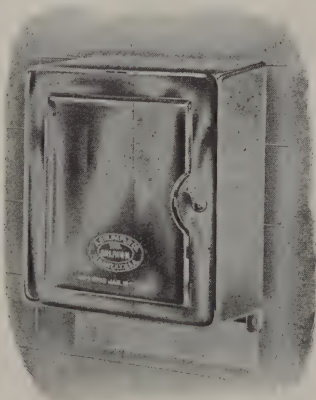
are absolutely guaranteed

Send for catalog  
Look us up in "Sweet's"

**John Wood Manufacturing Co.**  
Conshohocken, Pa.

Branches throughout the United States

## The "Onliwon" TOILET PAPER CABINET



Delivers units of two sheets uniformly, invariably and *silently* eliminating the waste and litter incident to the unprotected roll or cabinet. Nickel plated steel *locked* cabinets for hotels or other public places. Handsomely ornamental metal for residential use.

Booklet showing SPECIAL DESIGNS FOR NEW CONSTRUCTION will be sent architects or others on application.

**A. P. W. Paper Co., Albany, N. Y.**

## VENTILATION UNIT

A COMPLETE air washing and ventilating plant, mounted on a single base ready for electric and water connections, which may be set in small space by inexperienced labor.

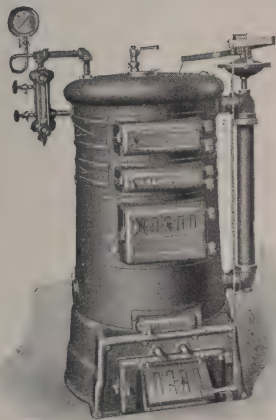
Motor driven fan and circulating pump; also city water connection for summer air cooling. Complete control of condition of air to suit the day or season.

This Self-Contained Unit (5 sizes) is the economical and efficient solution of the air washing, air cooling and humidifying problem for Banks, Stores, Residences, Halls, Cafes, Billiard and Reading Rooms.

Write for prices, giving size of room under consideration

**McCreery Engineering Co.**  
DETROIT, MICH.

# "RICHMOND" Efficiency



THAT element which distinguishes the "RICHMOND" Heating System from all others is the efficiency with which all parts, from boiler to radiator, faultlessly perform the work for which they are intended. The specification of "RICHMOND" fixtures precludes any suggestion of an error in your judgment.

And, after installation, you will understand why the owners and users of "RICHMOND" goods join with us in proclaiming that "RICHMOND" means superiority.

# "RICHMOND"

## Boilers ——— Radiators

From ash pit to radiator, the "RICHMOND" system embodies the newest and best that is known in heating. It is the crystallization of a hundred ingenuities—a hundred economies. It is adaptable to a three-room bungalow or a mammoth palace—to steam heat—hot water heat—direct or indirect.

Address in the West

Cameron Schroth Cameron Co.

Western Distributors for "RICHMOND" Boilers and Radiators

Michigan Street, Chicago

## "RICHMOND" Bath Tubs—Lavatories—Sinks

If you are about to build, investigate, too, the "RICHMOND" line of enameled ware. Everything in enameled ware, from kitchen sinks to bath

tubs, which bears the name "RICHMOND" is the best that can be made, less expensive in the beginning and in the end.

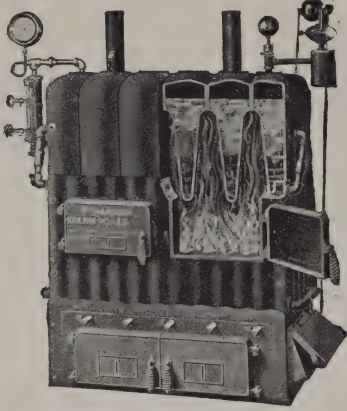
Send for our Latest Catalogues

# THE M<sup>C</sup>CRUM-HOWELL Co.

Two factories at Uniontown, Pa.  
One at Norwich, Conn.  
One at Racine, Wis.

Park Avenue and 41st Street, New York



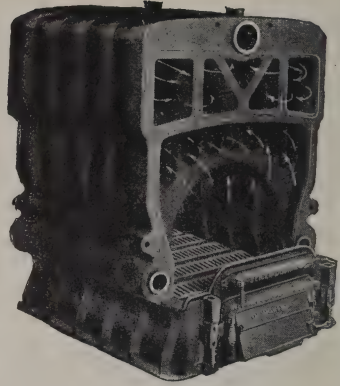


## Richardson's Boilers

FOR

STEAM or WATER  
HEATING

Have a Deserved  
Reputation



They supply the desired warmth in cold weather—are economical in fuel—are easily managed and give universal satisfaction—are specified by all leading architects.

*CORRESPONDENCE SOLICITED*

**RICHARDSON & BOYNTON CO., Mfrs.**

(Established 1837)

CHICAGO

31 W. 31st Street, NEW YORK

BOSTON

## The Carrier Air Washer and Humidifier

*The work done by the Carrier Air Washer and Humidifier may be enumerated as follows:*

First—The air is thoroughly washed, removing all solid matter and such gases as are soluble in water.

Second—In winter, no matter how cold the incoming air, it is tempered and heated to practically a constant temperature.

Third—The air is humidified and the relative humidity automatically controlled by a very accurate and simple method.

Fourth—The air in summer is cooled from 5 to 19 degrees. This cooling is due to evaporation when using the water over and over again, and will average about 14 degrees during the hottest part of the summer days.

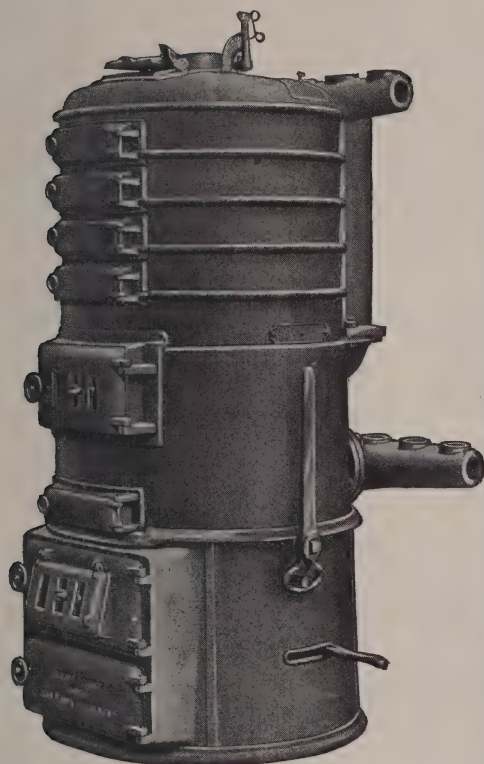
*Our engineer or catalog will call upon request to give any further information or advice.*

**CARRIER AIR CONDITIONING COMPANY**  
OF AMERICA

39 Cortlandt Street, New York

(147-C)

# The "Spence" Hot Water Boiler



Read about the detachable water post—how it brings all water connections on the outside of the boiler, and the high base with sifting grate that will sift all ashes inside the heater without dust or dirt escaping—in our "Spence" catalog.

This catalogue gives full description, measurements, capacities, sectional cuts showing the fire travel, the high base with sifting grate, the water post and other exclusive features.

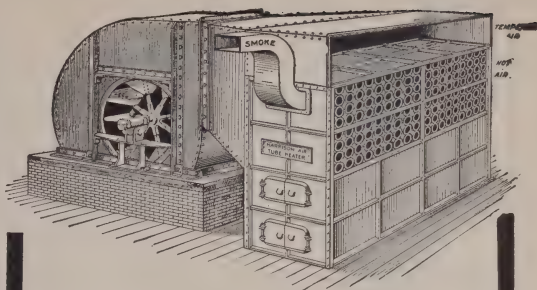
*Ask for our "Spence" catalog.*

**Pierce, Butler & Pierce  
Mfg. Company  
SYRACUSE, NEW YORK**

NEW YORK CITY  
Corner 4th Ave. and 22d Street

BOSTON  
61 High Street

PHILADELPHIA  
936 Arch Street



## NO BOILER

can show the efficiency obtained daily  
by the heater used

## IN THE HARRISON SYSTEM OF HEATING

Resembling a sectional water-tube  
boiler, the

## HARRISON AERTUBE HEATER

eliminates the double transfer of heat.  
The air flowing rapidly through the  
tubes, impelled by a fan, is directly  
warmed by the heat from the fire.  
With this heater there is no water, no  
boiler or other steam apparatus.

*Send for Illustrated Booklet.*

**HARRISON  
ENGINEERING CO.**

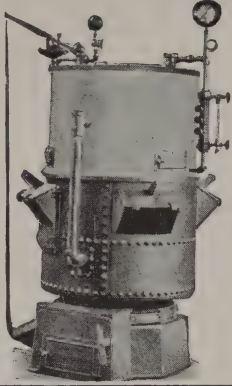
42 East 23d Street  
New York

BOSTON  
112 Water Street

CHICAGO  
1209 Fisher Bldg.

22-12





## Steam and Hot Water Systems

meant a new era in heating, but *guaranteed* boiler ratings mean a new era in boiler construction.

The *only* boilers that can be absolutely depended upon to do what's claimed for them are those whose ratings are guaranteed.

### GORTON SIDE-FEED BOILER ratings are guaranteed

*Our new catalogs on Boilers and Gorton quick-opening radiator valves will help to solve your heating problems. Free on request.*

**GORTON & LIDGERWOOD COMPANY, 96 Liberty St., New York**

BOSTON: 77 Oliver Street

CHICAGO: Fisher Building

The low water line admits it into low cellars without the objectionable boiler pit

# THATCHER

## "PROGRESS" BOILER

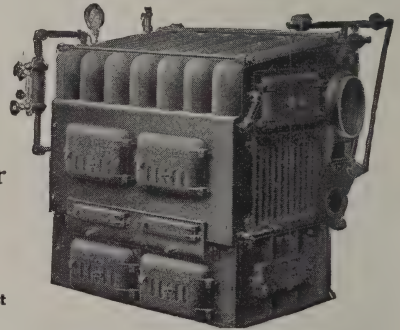
Note the triple fire travel, unique water chamber and perfect circulation. Investigate.

**Thatcher Furnace Co.**

110-116 Beekman Street  
New York

Established 1850

154 Lake Street  
Chicago



# THE AMERICAN AUDIT COMPANY

F. W. LAFRENTZ, C. P. A. President

THEO. COCHEU, Jr., C. P. A., Vice-Pres. and Secy.

A. F. LAFRENTZ, Treasurer

## Expert Accountants

NEW YORK { 100 Broadway (Home Office)  
                  { 33d St. and Fifth Ave. (Waldorf-Astoria)

CHICAGO—Marquette Building

BOSTON—Exchange Building

PHILADELPHIA—Bellevue-Stratford

BALTIMORE—Keyser Building

RICHMOND—Mutual Building

ATLANTA—Fourth National Bank Building

WASHINGTON, D. C.—Colorado Building

NEW ORLEANS—Hennen Building

SAN FRANCISCO—Claus Spreckels Building

LONDON, E. C.—4 King St., Cheapside

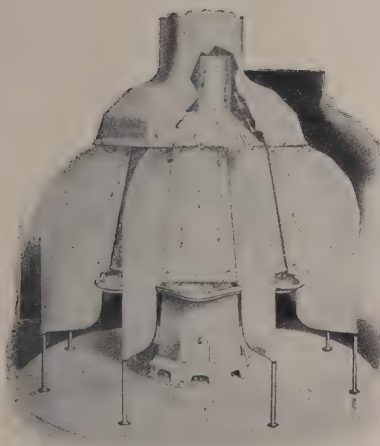
**We Make a Specialty of Building and  
Construction Accounts**

# COLUMBUS HEATING AND VENTILATING CO.

MANUFACTURERS OF NEW AND

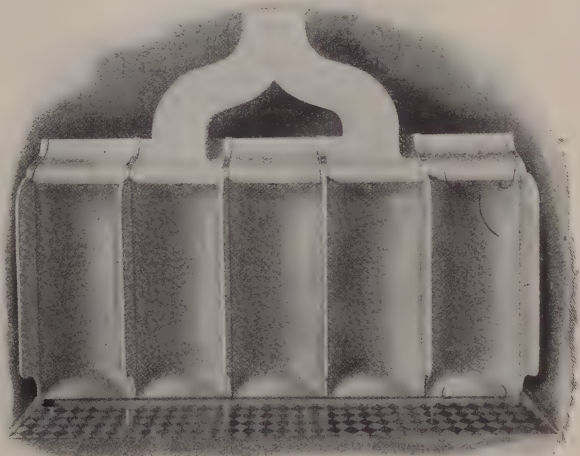
## ABSOLUTELY SANITARY URINALS AND CLOSETS

Specially Adapted for Schoolhouses, Public Buildings, Comfort Stations, Railroad Stations, Hotels, Manufacturing Plants, Etc.



1-S  
Octagon Urinal

This ventilated urinal is comprised of eight stalls with 24 points of ventilation, 3 to each stall. One point at base of urinal, one at receptacle, into which the water flows, and one underneath the top hood. This urinal is constructed of cast iron with heavy porcelain enameling, is absolutely sanitary, because no odors can escape into room and is as well a ventilator for the entire toilet room.



2-S  
Side Wall Ventilated Urinal

This urinal is constructed of cast iron, with heavy porcelain enameling, with two points of ventilation to each stall, at space between the trough and base of stall and underneath hood at top of stall. This can be placed along the wall forming ventilating space between each concave back and the wall, the water flowing over the entire concave back and into the trough. This is the best side wall urinal on the market.

## Columbus Heating & Ventilating Co.

COLUMBUS, OHIO



# The Old Man Behind the Boiler



That's the fellow you want to see when you get ready to buy a heating boiler for your flat building or business block—the *solid old citizen* who has put in all the days and nights of his life making boilers and who knows them like a mother knows her child—the wise old party who doesn't wear gloves or red neckties—who knows every minute what he's talking about—who stays right down on earth and talks boilers, not British thermal units and a lot of other fancy things which sound like dead language and are just as hard to crack.

British thermal units! Fudge! Piffle! The British never knew anything about heat units until the Americans went over there and gave them an ear full. And if some slim, spectacled boy with blond hair starts anything like this on you, tell him you want the old man who knows boilers and *nothing else*—that you want

to know the name of the best boiler on earth, not how many units there are in a bunch of coal bounded on the north by Main street and on the south by the calorimetric equivalent. Tell him that you are looking for a boiler that will heat your flat so the kids can play on the floor in the winter time without wearing rubber boots and steamer rugs, and so you won't have to go to bed while repairs are being made.

When you go to a doctor for earache, you don't study medicine—neither do you study law when you employ a lawyer to sue for a separation. Well, it's the same in boiler buying. You don't want to study a column of inane statistics as long as your arm and as knotty as your spine. You want some one who knows boilers—some one who is dead on the level, and whose word is as good as a government bond, to tell you in plain old every-day Anglo-Saxon about boilers—*boilers, boilers.*

If such a man as this doesn't direct you to the **KEWANEE** steel fire-box boiler and prove to you it is the best boiler on earth, *then we don't want a cent.*

We've been at this boiler-making business so long that we know what we are talking about. We know all about British thermal units, too, but we don't use them to excess. We don't deal in blunders or word pictures, or statistical drivel. We make boilers and we talk boilers, and when we're through you've got the information you're looking for. We don't put fool ratings on our boilers. We rate them at what they will actually do. We don't specify a 2,000-foot capacity for 1,000 feet of radiation—we specify a 1,000-foot capacity boiler. We don't deal in blunders. We're not guessing. We don't *write* or *say* a word about the **KEWANEE** boiler that isn't absolutely true. We've been making boilers for nearly forty years, and what we say goes in the boiler business. We say now without fear of contradiction that the **KEWANEE** steel fire-boiler is the *best boiler on earth*, and we are ready to prove it in public or in private.

There are 70 miles of fine Chicago flat buildings now heated by **KEWANEE** steel fire-box boilers, and the architects who constructed them and put up additional ones put the good old **KEWANEE** steel fire-box boilers in the new ones. *Must be something awful good about this boiler.*

Architects will find a useful catalogue of **KEWANEE** products on pages 1002-1008, "Sweet's" Catalogues.

## **KEWANEE** Boilers Will Positively Do What They Are Rated to Do—And You Can Bank Your Money on It Too



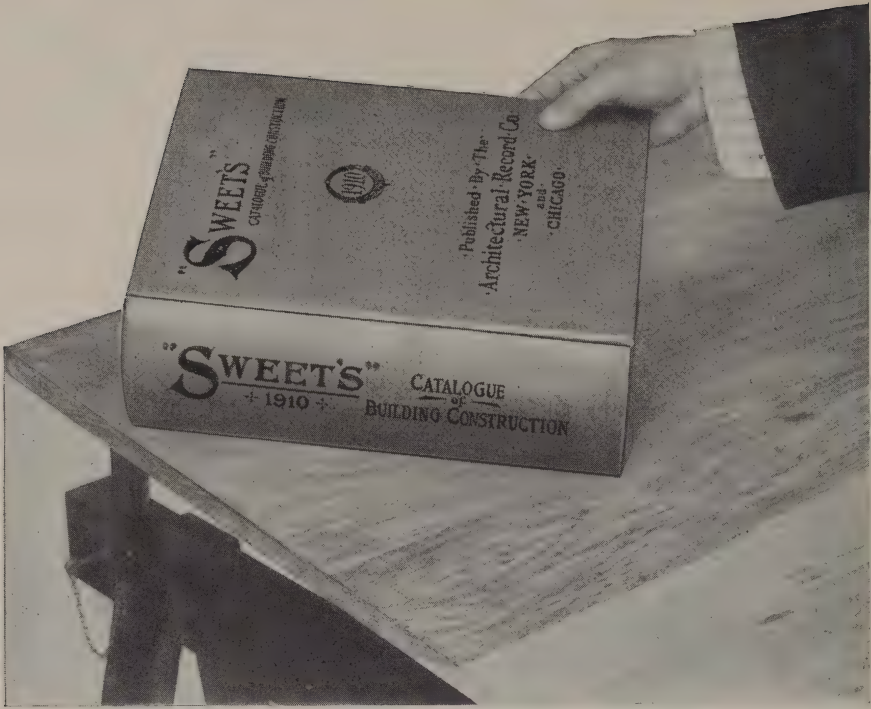
MAKERS OF  
BRICK-SET STEEL  
FIRE BOX BOILERS—AND  
RADIATORS

**KEWANEE, ILLINOIS**

BRANCHES: CHICAGO, ST. LOUIS, KANSAS CITY







# Sweet's Catalogue

showing it at work on an architect's table.

This is the place for a manufacturer to put his catalogue if he wants to sell goods.

Over \$100,000,000 worth of building material was specified *directly* from Sweet's Catalogue last year.

Reserve space now for the next edition.

*Write today for particulars*

## "Sweet's"

11 East Twenty-fourth Street, New York

Chicago

Philadelphia

Pittsburgh

Boston



OFFICE BUILDINGS FOR UNITED STATES SENATORS AND REPRESENTATIVES,  
WASHINGTON, D. C.

All plumbing fixtures furnished by The Meyer Sniffen Company, of New York City. Vitreous China Lavatories, Urinals and Closets and Solid Porcelain Bath Tubs and Sinks manufactured by The Trenton Potteries Company, of Trenton, N. J. Illustrations are from photographs copyrighted by Waldon Fawcett.

## THE TRENTON POTTERIES COMPANY

is in a position to furnish the trade with estimates on the plumbing fixtures in any building, from the most humble cottage to the tallest skyscraper. Our enormous facilities enable us to turn out work at the shortest possible notice.

In making specifications for a building, conditions sometimes require the use of special fixtures. We maintain a designing and modeling department for the use of our customers in preparing fixtures for special installation.

Also, for specification purposes, we have prepared loose sheets of our catalogue, both large and small size. These may be inserted in a folder according to requirements, and may be secured in any quantity on application.

Remember, we are the largest manufacturers of sanitary "Ideal" Solid Porcelain and Vitreous China in the world.



*The Trenton  
Potteries Company*

Trenton, New Jersey, U. S. A.







# JENKINS BROS. VALVES

are the original and only genuine "Jenkins" valves. They are the easiest to keep tight. They are strong, well designed, carefully constructed, and nicely finished. Don't take an imitation "Jenkins"—insist on having the kind which bear the trade mark as shown in the cut.

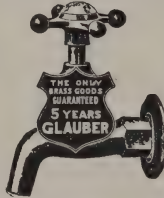
*We shall be glad to send catalog on request*

**JENKINS BROS.,**

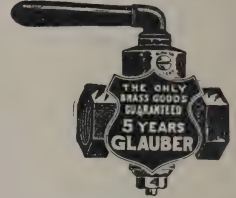
**New York, Boston, Philadelphia, Chicago**



**GLAUBER  
BRASS  
MFG. CO.**



**CLEVELAND  
AND  
NEW YORK**



## HESS SANITARY LOCKER

**THE** only modern Sanitary Steel Medicine Cabinet or Locker. Handsome beveled mirror door. Snow white, everlasting enamel, inside and out.

### FOR YOUR BATHROOM

Costs less than wood and is better. Should be in every bathroom. Is dust, germ and vermin proof and easily cleaned with warm water.

Made in four styles and three sizes. Price \$7.00 and up.

Send for illustrated circular.

**HESS, 933 L Tacoma Bld., Chicago**

See Our Catalog in *SWEET'S*  
Pages 1205-6 and 7

Over \$500,000,000 worth of BUILDING MATERIAL was purchased last year.

Did you get your share?

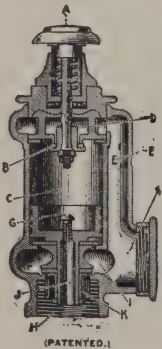
The Architects, Builders, Engineers, etc., are relying almost exclusively on **SWEET'S CATALOGUE** for building material information.

If you want to be indexed in the next issue, write now for particulars.

**SWEET'S**

11 EAST 24th ST., NEW YORK

SECTIONAL VIEW



## Crest Flush Valves

For Water  
Closets and  
Urinals

Simple in Design  
Only Two Moving Parts  
Substantial in Construction  
Noiseless in Operation

*Send for Descriptive Booklet*

**A. N. PASMAN**

3 Foye Place, JERSEY CITY, N. J.

## COMPRESSION BIBBS

A HUMBLE yet IMPORTANT  
part of the sanitary equipment

**We make the BEST**



Our "Springfield" Pattern

*Our Bibbs are Fully Guaranteed*

**E. STEBBINS MFG. COMPANY**

Brightwood Station  
SPRINGFIELD, MASSACHUSETTS

"Sweet's" pages 868-869

# We are Originators, Not Imitators

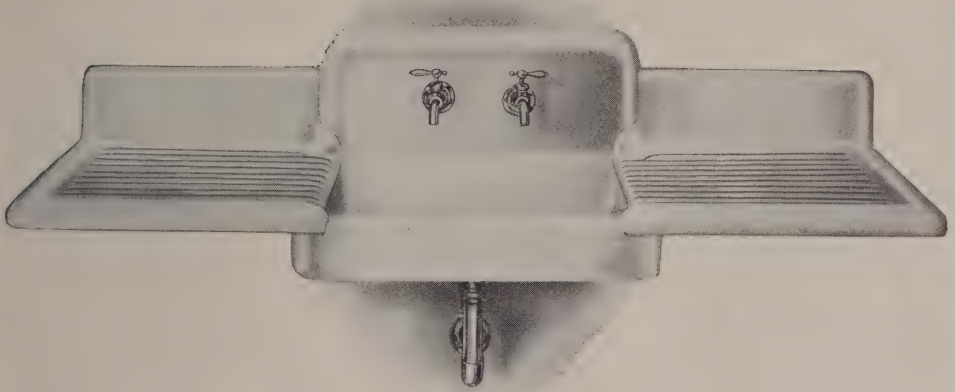


Plate F. 230 (Patented)

**O**THER manufacturers are now trying to imitate our line of one-piece apron sinks and combinations, but the original "Cahill" line is still in the lead. "Beware of imitations." The cut shows our plate F-230 "Chattanooga" combination, consisting of sink with 12-inch back and 5-inch apron cast integral, and two drain boards with 8-inch back. Drain board and back cast in one piece. "Chattanooga" combinations can be furnished in four sizes. They are also made for right or left corner, and can be furnished with legs, if desired.

For further particulars see Catalog "F," a copy of which will be mailed on application.

## The Cahill Iron Works Chattanooga, Tennessee

**New York Office and Display Rooms**  
76 West Thirty-sixth Street  
T. H. Hutchinson, Manager

**Chicago Office**  
163 Randolph Street  
Harry Verbeek, Sales Agent

**Warehouse**  
558 West 34th Street

**Philadelphia Office**  
5604 North Fourth Street  
Russell D. Knight, Sales Agent

**Portland Office and Warehouse**  
550 Sherlock Building  
H. A. Heppner & Co., Sales Agents

**San Francisco Office & Display Rooms**  
1749 Sacramento Street  
Chas. H. Stanyan, Sales Agent



# CLOW

## Automatic Closets

(Madden's Patent)

### *When Children Forget*

Experience has shown that a closet that will flush itself is the only closet to use in schools.

Children are careless.

Clow's Automatic Closets are never careless.

They have an automatic mechanism which never fails.

And this mechanism is as simple as it is reliable. There are only three movable parts, and unless they are purposely interfered with, never get out of order.

### *As a Tax Reducer*

Only enough water is admitted at any one time to flush the bowl.

This means a great saving in water tax; a saving of 50 per cent. over the ordinary type of closets, as shown by actual test.

### *How Long Will They Last?*

Closets used in schools must, above all things, be durable, not only in the matter of keeping in order and doing their work, but in the matter of durability.

Clow Closets are made of Adamantose ware. This means that they are as strong as iron, cannot craze, and are non-absorbent and unstainable.

Equal care is devoted to the material and construction of the seats. They neither warp, crack nor split.

For schools, office buildings and public institutions—for every building in which automatic closets are desirable—the "Clow Automatic" is the only closet that will give entire satisfaction. Whether your equipment is large or small, you cannot afford to be without Clow Automatic Closets—the only closets that *are* automatic—the closets that save you water taxes, that do not get out of order.

Send now for our School Plumbing Booklet No. 13, which illustrates and describes our entire line.

## JAMES B. CLOW & SONS

Chicago

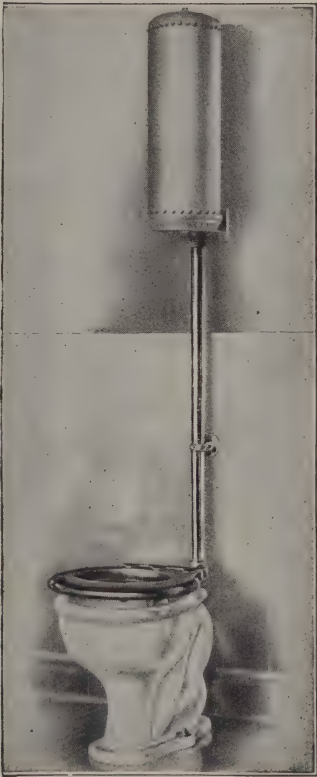
New York  
Kansas City

Havana

St. Louis  
Milwaukee

Washington  
San Francisco

Philadelphia



Clow Cymric M-1810.  
Automatic Closet with  
Adamantose Bowl.

# The One Safe Closet for School Houses and Public Comfort Stations



CLIMAX  
SANITARY  
CO.

## Maxco 393

**Enameled Iron Tank. Raised Rear Vent Bowl.**

*All woodwork furnished with MAXCO combinations is made with the famous SPLITPROOF guaranteed joint.*



*Architects who know the expense and annoyance of replacing defective tanks, and who appreciate the danger from cracked seats, are insisting on the SPLIT-PROOF joint on all plumbers' woodwork.*

Any interested architect may have the opportunity of examining the working of the Maxco seat action closet in his own office on request. Catalogue will be mailed on receipt of postal.

**CLIMAX SANITARY COMPANY, Detroit, Mich.**



*Ask a party that knows something about  
Plumbing Goods what he thinks of*

## **"Paragon Quality" Plumbing Appliances**

*The chances are he will say the quality of  
the line is unquestioned, but a little  
higher than other goods*



*Cost a little more. We know that the difference is small  
and well worth the extra amount asked. Besides, all  
"Paragon" Trimmings bear our name, which is a  
guarantee to every purchaser.*

**THE SANITARY CO., Cleveland, Ohio, U.S.A.**

**Exclusive Makers of "PARAGON QUALITY" Plumbing Goods**

## In Tub Bathing

the bather knows beforehand exactly the temperature of the water he or she is going to encounter.

In shower bathing without the Ingham Mixer the adjustment of the water temperature is always *guess work*, frequently a source of *discomfort* from the *shock* of water either too *hot* or too *cold*, and, in many instances, has resulted in serious and even fatal injury to the bather from *scalding*, particularly where the cold water is tempered by steam under high pressure, as is generally the case with shower baths in large establishments, such as



club and college gymnasiums, hotels, municipal bathing houses, factories and industrial plants, etc.

## The Ingham Shower Mixer

absolutely precludes any possibility of injury by scalding, even where the water is heated by high pressure steam.

It assures the desired temperature of water from the very start of the flow. It insures the thorough comfort of the bather and eliminates the possibility of shock. It saves thirty per cent. of water and fifty per cent. of steam. It is perfectly automatic, noiseless, and will not get out of order.

*Ask for our book*

**The Imperial Brass Mfg. Co.**

**443 So. Jefferson Street  
Chicago, Ill.**

TEAR THIS OFF, SIGN AND MAIL IT  
A. R. G.-1

IMPERIAL  
BRASS MFG. CO.  
443 So. Jefferson St.  
CHICAGO, ILL.

Send copy of your book.

Signed .....

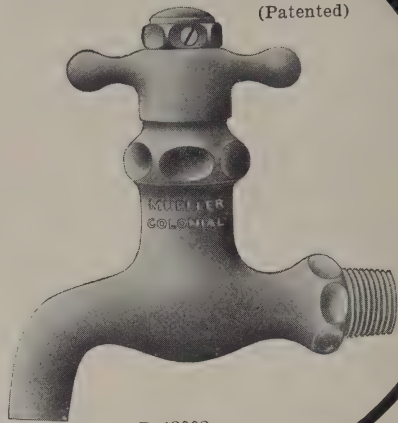
Street No. ....

City .....



**Mueller Colonial  
Self-Closing Bibb**

(Patented)



D-12002

## The Size of The Water Bill

Is not measured by the amount of water actually used, but by the amount that is used and wasted.

When Mueller Colonial Self-Closing Work is installed, the bill and the water actually used strike an approximate balance. An owner knows then that he is not paying for something from which he derives no benefit. Mueller Colonial Self-Closing Work prevents waste, and unlike other self-closing work, has no mechanical weakness to render it ineffective.

We know positively about Mueller Colonial Self-Closing Work's durability.

We've tried it out. Under a mechanical device it was opened and closed 699,000 times, water passing through each time. It was kept in continuous operation 466 hours, and showed practically no wear. Experts figure this test as equal to 20 years' service. Each cock is tested 200 pounds hydraulic pressure, stamped with the name MUELLER, and

**Unconditionally Guaranteed**

TRADE MARK  
**COLONIAL**  
REGISTERED

**H. Mueller Mfg. Co.**

Works and General Offices  
Decatur, Ill., U. S. A.  
West Cerro Gordo Street

Eastern Division  
New York, N. Y., U. S. A.  
254 Canal St., cor. Lafayette

NEVER  
SPLIT



CLOSET  
SEATS

are being specified by architects  
all over the country.

### END TO END

Every piece in a "Never Split" Closet Seat is put together end to end with the next piece, with the joint made tight with the hidden bolt.

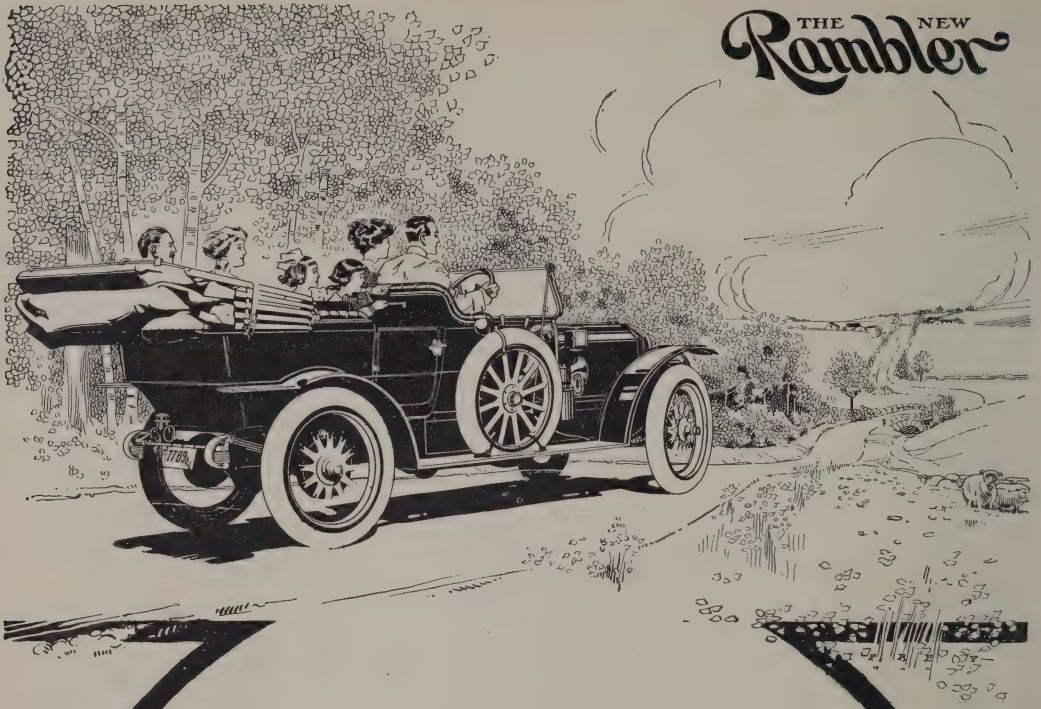
Every architect knows that this means a perfect joint, with no chance to open even a hair line after the protecting varnish has gone.

The five year guarantee is not a risk that we have assumed—we know from experience, as you know from the theory of wood, that this guarantee might with equal safety be made for the life of the closet itself. These four pieces of end grain wood simply can't come apart at the joints.

Never Split Seat Co., Evansville, Ind.



## THE NEW Rambler



**T**HE superiority of the New Rambler motor is recognized because of its exclusive advantages of efficiency, simplicity and accessibility. Efficient because the Offset Crank-Shaft increases power and enables you to throttle down on high gear no faster than a man usually walks. Simple because of the one-piece crank case and direct-acting overhanging valves. Accessible because the wedge-type main bearing permits adjustment from above, while the crank case opening is at the side. The Straight-Line Drive saves power by avoiding the corner or angle in other driving systems; thirty-six inch wheels increase clearance, improve the appearance and make riding comfortable, while the Spare Wheel obviates tire trouble.

**Thomas B. Jeffery & Company**  
Main Office and Factory, Kenosha, Wisconsin  
Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco

**BALL  
COCK**

**GACO**

**FLUSH  
VALVE**

# NOISELESS CLOSET TANK VALVES.

NOTICE ADVANTAGES

**GACO**  
Ball Cock



Fleming Patent

No Sucking  
No Sputtering  
No Hissing  
No Singing  
No Chattering  
No Repairs

CAN BE APPLIED TO ANY  
STYLE OF TANK

**GACO**  
Flush Valve



Stewart Patent Pending

## ARCHITECTS!

Noiseless Closet Tanks are business getters, and when specifying or ordering water closets, you will build up a business on the solid foundation of satisfied owners, by insisting on having **GACO** Ball Cocks and Flush Valves in the tanks.

**GACO** VALVES ARE UNCONDITIONALLY FURNISHED WITH A WRITTEN GUARANTEE THAT PROTECTS AGAINST NOISE, LEAKS OR OTHER DEFECTS.

INTERESTING BOOKLET SENT ON REQUEST

**Pittsburgh Gage & Supply Co.**

MANUFACTURERS

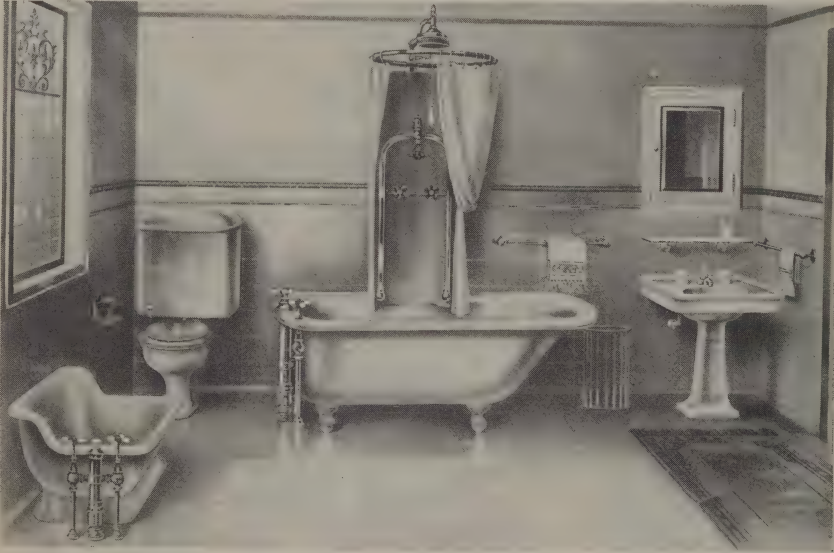
PITTSBURGH, PA.

New York Office, 91 Liberty St



# WOLFF PLUMBING GOODS

FIFTY FIVE YEARS OF  
QUALITY



Year after year Wolff plumbing fixtures will give perfect service with ordinary care and attention. Lasting quality under the daily effect of hard usage is obtained through over half a century of studied attention to details of construction.

Established 1855

## L. Wolff Manufacturing Co.

Manufacturers of

### Plumbing Goods Exclusively

The only complete line made by any one firm

General Offices: 601 to 627 West Lake Street, Chicago

DENVER

Salesrooms, 91 Dearborn St., Chicago

TRENTON

#### BRANCH OFFICES

Minneapolis, Minn., 615 Northwestern Bldg.

Cleveland, O., Builders' Exchange

Kansas City, Mo., 1204 Scarrett Bldg.

San Francisco, Cal., Monadnock Bldg.

Omaha, Neb., 1116-1118 Douglas St.

Washington, D. C., 327 Bond Bldg.











BOSTON PUBLIC LIBRARY



3 9999 10238 044 9



E. F. L. Bimble  
NOV 29 1911



